Jeoloji Panorama

Hazırlayanlar : *Engin Öncü Sümer*[1], ***Mine*** *Sümer*[1] *ve Sefer Örçem*[2]

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[2] MTA Genel Müdürlüğü, Jeoloji Etüdleri Dairesi, Ankara

Dünya Periyodiklerinden Yeni Makaleler

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"Geological Magazine[11] Mart 1996, cilt 133, no.2

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Dünya **Periyodiklerinden CD-Tarama GEO-REF** (1983-1993)

Hazırlayanlar : *Engin Öncü Sümer ve Mine Sümer*

"Jeoloji Panorama" da bu ve bundan sonraki sayılarda dünya- jeoloji periyodiklerinde belirli konularda yayınlanmış bazı makalelerin bibliyografyası "Jeoloji Mühendisliği" okurlarına sunulacaktır.
Bu amaçla, Orta Doğu Teknik Üniversitesi Kütüphanesinde CD-yayın tarama bölümünde bulunan GEO-REF 1983-1993 CD-disto ve Earth Science CD-disMerinde yer alan çeşitli konulara yönelik anahtar sözcüklerle jeoloji ile ilgili referans taraması yapılmıştır. İlerideki sayılarda da farklı konu ve başlıklar altında yayın taraması sürdürülecektir. Bu bölümle ilgili istek, görüş ve önerilerinizi bekler, hu çalışmanın araştırmalarınıza katkıda bulunmasını dileriz.

Belgesel Metamorfik Kayaçlarda Ortaya Çıkan Bazı Mimerai ve Mineral Toplulukları : klorit, muskoviî, kloritoyid, biyotit, stavrolit, kordiyorit, andaluzii, sillimaniî] dişten

Kısaltmalar
11 = başlık
AU = *7azar(lar)*
OS = *Yazarların adresleri*
SO = *Yayımlandığı yer? cät, sayfa*
AB' = Yayımım özeti
YR = Yayınlandığı yd
LA = *Yayımın yazıldığı dil*
DE = *Yayımın anahtar söz/cüMeri*

Tl: A petrogenetic grid for the **KFMASH** system.,
AU: Dickenson-M-P; Hess-P-C
OS: Brown Univ..,, Dep. Geol. Sei, Providence, RI, United-States
SO: Eos^-Tmnsactions^-American-Geopfaysical-Union. 62. (17). p. 421 YR: 1981 LA: English '
DE: data-processing; petrology-; **phase-equilibria;** silicates-; " **FeO-A12-O3-SiO2-H2-O; KFMASH-; graphic-display;** shale-; clastic-rocks; chemography-; topology-ialumnosilicates-; garnet-group; nesosilicates-; orthosilicates-; staurolite-; chloritoid-; biotite-; mica-group; sheet-silicates; chlorite-; chlorite-group; cordierite-; ring-silicates

Tl: **Uni- and divariant** equilibria between **staurolite, chloritoid» garnet, chlorite,** biotite **and medium** pressure **meta-acidites** from **Lorient-Concarneau** area (South **Brittany,** France).
AU: **Triboulet-C** ,,
OS: Univ.. P. M. Curie, **lab.** petrol., Paris Cedex 75230, France^
SO: Coirtributicms-to-Mineralogy-and-Petrology. 82., (2-3). p. 195-204,.YR: 1983
DE: France-; petrology-; metamorpMc-rocks; mineral-assemblages; phase-equilibria; metamoipMsm-; P-T-conditions; high-temperature; staurolite-; nesosilicates-; orthosilicates-; silicates-; cMoritoid-; garnet-group; chlorite-group; sheet-silicates; biotite-; mica-group; phengite-; geologic-thermometiy; correlation-; high-pressure; Silurian-; Devonian-; Morbihan-; Finistère-; Western-Europe; Europe-; Lorient-Concarneau

IT: Local and. regional **differences in** the: **chemical** potential of water in **ampbibolite** grade pelitic rocks»
AU: Dickenson-M-P
OS: Harvard Univ., Dep. Geol. Sei, Cambridge, MA, United-States
SO: The. Geological Society of America,. 97th annual meeting. .Ahstracts-with-Programs-Geological-Society-o:f-America.. 16.. (6). p. 488 YR: 1.984
DE: metamorphic-rocks; geochemistry-; water-of-ciystallization; New-Hampshire; petrology-; Moosilauke-Quadrangleç New-England; Eastern-U, S. ; United-States; pelitic-texture; amphibolite-facies; garnet-group; nesosilicates-; oithosilicates-; silicates-; Gibbs-technique; ' chloritoid-; biotite-; mica-group; sheet-silicates; chlorite-; chlorite-group; staurolite-; andalusite-; iron-; magnesium-; phase-equilibria; chemical-analysis

Tl: *Gamet and associated minerals in the southern margin of the Menderes Massif, Southwest Turkey,*
AU: Ashwortfa-J-R; Evirgsn-M-M
OS: Univ. Aston, Dep. Geol, Sci.ˌ Aston, United-Kingdom; Hacettepe Univ.., Turkey
SO: Geological-Magazine.. 121. (4). p., 323-337,. YR: 1984
AB: Assemblages with .muscovite+quartz show a regular increase in grade from the Chlorite Zone at the base of the Lycian Nappe Complex to the Garnet Zone within Ae structurally underlying Menderes Massif. Biotite enters before garnet, which precedes, oligoclase. Garnet-bearing assemblages in petites are compared with, those in re-equilibrated, quartzofeldspathic gneisses, where garnet is unusually calcic (in one case approaching Gross50 AhnSO). Garnet zoning, with Mn decreasing outwards, is: interpreted as growth zoning; Ca decreases outwards in pelite garnets but shows the reverse effect in the gneisses, Chloritoid is common but rarely coexists, -with biotite» and garnet+chlorite+paragonite is found rather than chloritoid+albite. Garnet-biotite geotheimometiy, corrected, for the effect, of Ca in garnets with up to .29 moie% grossular, indicates temperatures of 530+ orˡ -50 degrees C near' the garnet isograd. Muscovite-paragonite geothermometiy .gives an. anomalous result., Metamorphic pressure is considered in the light of (i) Mn/Fe partition between garnet and biotite, (ii) Ca content. of garnet coexisting with plagioclase+musoovite+biotite, (iii) Ma. in actinolite coexisting with albite+chlorite+magnetite, and (iv) celadonite content of muscovite which, however, shows variation due to' disequilibrium within a specimen and does not. provide an. accurate geobarometer.. Comparisons with published, studies indicate a strong similarity to the Barrovian. Dalradian of Scotland and lead to a tentative pressure estimate of approximately 5 kbar.-Modified journal, abstract
DE; Turkey-; petrology-; metamorphic-rocks; metamorphisrn-; F-T-conditions; isograds-; gneisses-; Middle-East; Asia.-; garnet-group; nesosilicates-; orthosilicates-; silicates-; mineral-assemblages; southwestern-Turkey; Menderes-Massif; grade-; chlorite-zone; Lycian-Nappe-oomplex; biotite-; mica-group; sheet-silicates; oligoclase-; plagioclase-; feldspar-group; .framework-silicates; shale-; clastic-rocks; quartzofeldspathic-gneisses; zoning-; retrograde-metamorpMsm; geologic-thermometiy; complexes-; chloritoid-; chlorite-; chlorite-group; paragonite-; muscovite-; celadonite-; pressure-; composition-

Tl: Uebersicht lieber Geologie und Mineralgçhatt in einem Qaerprofil von Altkristallin . zur Kaflcatpenbasis (Triebenaner Tauernpass FHfzenschlncht» Fal.teii.tal, Steiermark,, Oesterrekh). Tnmdated title: Geology and minerai composition Im a cross-section of the old crystalline Limestone • Alps- 'base; Trieben« Tauernpass, FliteenscMiielit, Paltental, Styria, Austria.
AU: Ratschbacher-L; Klima-K
SO: Jahrbuch-der-Geologischen-BundesansMt-Wieii, 128. (1). p. 151-173.. YR: 1985 LA: German LS: English
BE: .Austria-; petrology-; metamorphic-rocks; composition-; mineral-composition; absolute-age; dates-; Ordovician-; Silurian-; Alpine-Orogeny; graywacke-; clastic-rocks; chloritoid-; nesosilicates-; orthosilicates-; silicates-; biotite-; mica-group; sheet-silicates; gamet-; Permian-; Triassic-; metamoiphism-; North-Austrian-Alps; Alps-; Central-Austrian-Alps; Styria-; Central-Europe; Europe-; K/Ar-

TI; Reversals in. Fe-Mg partitioning between chloritoid ani staurolite.
AU: Grambling-J-A
OS: Univ. N.M.,, Dep. Geol., Albuquerque, MMˌ, United-States:
SO: American-Mineralogist. 68. (3-4). p. 373-388, YR: 1983
AB: Chloritoid and, stanrolite coexist with Al silicate, chlorite, or- gamet + or - biotite in. Precambrian quartzite and schist from northern New Mexico, The observed Fe-Mg reversal is not related to variable- P, T, or' minor element content, including Fe(3+). However, it could arise from any of three factors: (1) Fe and Mg may occur on several, cristallographie sites in one or both minerals; (2) some *Mg* may not be exchangeable with. Fe in staurolite; or (3) Fe and Mg may mix non-ideally in. one or both phases,-Modified journal, abstract,
DE : New-Mexico; petrology-; metamorphic-rocks; mineral-assemblages; phase-equilibria; minerals-; partitioning-; nesosilicates-; chloritoid-; crystal-chemistry; iron-; geochemistry-; magnesium-; Rio-Arriba-County; Mora-County; Southwestern-U.S. ; United-States; Sangre-de-Cristo-Mountains; Trachas-Range; coexisting-mlnerals; orthosilicates-; silicates-; staurolite-; quaitsites-; schists-; textures-; reversals-; aluminosilicates-; electron-probe-data; Precambrian-

TI: Allochemical retrograde metamorphism in shear zones; an example in metapelites, Virginia,, USA,,
AU: Gates-A-E; Speer-J-A
SO: Journal-of-Metamorphic-Geology. 9. (5). p. 581-604. YR: 1.991
DE: metamorphic-rocks; metasedimentaiy-rocks; metapelite-; Virginia-; petrology-; mineral-deposits;

genesis-; processes-:; syngenesis-; minerals-; sheet-silicates; **chlorite-group;** occurrence-; nesosilicates-; cbloritoid-; stanrolite-; metamoiphism-; retrograde-metamorphism; shear-zones; Southeastern-ll. S. ; Eastern-U. S. ; United-States; diagenesis-; mineral-deposits,-genesis; orthosilicates-; silicates-; chlorite-; sheet-silicatesrchlorite-group; chemical-composition

TI: Les: faciès **a carpholite-chloritoide** dans **la couverture Brianconnaise** des **Alpes** Ligures: um témoin **de** l'histoire **tectono-metamorphique regionale.**
Translated title: Caipholite-chloritoid faciès in the Brianconnais cover of the Ligurian Alps; evidence of. regional tectonometamorphic history.
AU: **Goffe-B**
SO: Memorie-della-Societa-Geologica-ItaliaBa. 28. p. 461-479.. YR: 1984 LA: French LS: English
DE: Italy-; stmcto.ral-geol.ogy; tectonics-; metamorphic-rocks; meftasedimeniaiy-rocks; paragenesis-; Ligurian-Aips; Maritime-Alps; caipholite-; chain-silicates; silicates-; chloritoid-; nesosilicates-; orthosilicates-; greenscMst-facies; major-elements; **dectron-piobe-data;** Alpine-Orogeny; stmctmal^arialysis; Ligeria-; orogeny-; Southern-Europe; Europe:-; Brianconnais-Zone

TI: Ruck pressures **vs. fluid pressure as** a **controlling** influence on mineral stability; **an** example from New Mexico.
AU: Holdaway-M-J; Goodge-J-W
SO: American-Mineralogist. 75. (9-10). p. 1043-1058, YR:: 1990 LA: English
DE: New-Mexico; petrology-; metamoiphism-; P-T-conditions; pressure:-;; metamoiphic-iocks; mineral-assemblages; phase-equilibria; metasedimentaiy-rocks; stability-; minerals-; silicates-; Taos-County-New-Mexico; Ortega-Group;. Rinconada-Formation; Southwestern-U.S.; United-States; north-centrai-New-Mexico; Picuris-Range; fluid-pressure; quartzites-; schists-; solid-phase; Proterozoic-; upper-Precambrian; Precambrian-; kyanite-; nesosilicates-; orthosilicates-; sillimanite-; andalusite-; chloritoid-; stanrolite-; geologic-barometry

TI: A **petrogenetic** grid for **metamorphosed aluminous Witwatersrand** .shales,„
AU: Wallmach-T; Meyer-F-M
OS: South-Afncan-Journal-of-Geology. 93., {!).. p. 93-102. YR: 1990 LA: English
DE: South-Africa; petrology-; metamoiphism-; P-T-conditions; interpretation-; phase-equilibria; metasedimentary-rocks; Witwatersrand-System; shale-; clastic-rocks; mineral-assemblages; Jeppestown-Sh.al.es; Southern-Africa; Africa-; chloritoid-; nesosilicates-; orthosilicates-;; silicates-; migration-of-elements; pyrophiyllite-; sheet-silicates; genesis-

TI: Les metapelites a. **phengite-chloritoide-grenat-staurotide-disthene de la klippe** de **Najac-Carmaux; nouveaux** marqueurs **d'un métamorphisme de** haute pression **varisque en Rouergue** occidental
Translated title: **Phengite-chloritoid-garnet-stanrolite-kyanite** bearing; **metapetites** of **the Najac-Carmaux** klippe; mew evidence for **Variscan** high-**pressure metamorphism in western Ronergue.**
AU: Delor-C; Burg-J-P; [i]Gniraud-lVÏ; Leyreloup-A
SO: Sciences-de-la-Terre., 305.. (7). p., 589-595 YR: 1987 LA: French LS: English
DE: France-; petrology-; metamorphism-; P-T-conditions; high-pressure; metamorpMc-rocks; metasediinentary-rocks; metapelite-; phengite*-; mica-group; sheet-silicates;; silicates-; chloritoid-; nesosilicates-; orthosilicates-; gamet-groip; staurolite-; kyanite-; Caledonian-Orogeny; Rouergue-; A¥eyron-; Tarn-; Western-Europe; Europe:-; Central-Massif; Najac-Ca.rin.amx

TI: Chloritoid-paragonite^phyrophyllite and stüpnomelanerbearing rocks near[1] **Blackwater Mountain,** western. Rocky Mountains», **British** Columbia«
AU: Ghent-Edward-D; Stout-Mavis-Z; Ferri-Filippo
SO: The-Canadian-Mineralogist 27,. (1). p. 59-66. YR: 1989
DE; British-Columbia; petrology-; metamorphic-rocks; metasedimentaiy-rocks; mineral-assemblages; metamorphism-; P-T-conditions; interpretation-; Western-Canada; Canada-; chlor.itoi.d~; nesosilicates-; **orthosilicates-;** silicates-; paiagonite-; mica-group; sheet-silicates; pyrophyllite-; stilpnomelane-; Bla.ckwater-Mountain; Canadian-Rocky-Mountains; Middle-Cambrian; Cambrian-; Chancellor-Formation; petrography-; X-ray-diflfractkm-spectra

TI: **Sudoite,** a **rock-forming** mineral in **Verrucano of** the **Northern Apennines** (Italy) and the: **sudoite-chloritoid-pyrophyllite** assemblage in **pregrade metamorphism.**
AU: Franceschelli-M; Mellini-M; Memmi-I; Ricci-C-A
SO: Contributions-to-Mineralogy-and-Petrology. 101. (3). p.. 274-279.. YR: 1989
DE: minerals-; sheet-silicates; chlorite-group; sudoite-; metamorphism-; prograde-metamorphism; mineral-assemblages; Italy-; petrology-; sheet-silicates,-cblorite-

group; silicates-; pyrophyllite-; chloritoid-; nesosilicat.es;-; orthosilicates-; muscovite-; mica-group; paragonite-; chemical-composition; Tuscany-; Emilia-Romagna; Apennines-; Southern-Europe; Europe-; Verrucano-

TI: TransiiiiiSsio.il electron microscopy **of chloritoid; mtergrowfh with** sleet **silicates** and. **reactions in metapelites.**
AU: Banfield-Jîllian-F; Kaiabinos-Paul; Vdblen-David-R
SO: Anierican-Mineralogist 74. (5-6). p. 549-564,
YR: 1989
DE: Vermont-; petrology-; metamoipMc-rocks; minerals-; nesosilicates-; chloritoid-; costal-growth; metasedimentary-rocks; metapelite-; Rmtland-County-Vennont; Windham-County-Vermont; TEM-data; intergrowths-; orthosilicates-; silicates-; sheet-silicates; ultrastructore-; natural-materials; Green-Mountains; Tacoiiic-Allochthon; Jamaica-Vermont; Riitland-Vennont; New-England; Eastern-U.S.; United-States; southern-Vermont

TI: **Chloritoid,** stauroite **and** gedrite of the **hiğh-alomina hornfelses of the** Kar.ata.sto **Platon.**
AU: Likhanov-I-I
SO: Intemational-Geology-Review. 30. (8). p. 868-877.-YR: 1988
DE: metamoipMc-rocks; hornfels-; mineral-composition; USSR-; petrology-; intrusions-; plntons-; aureoles-; chloritoid-; nesosilicates-; orthosilicates-; silicates-; gedrite-; orthoamphibole-; amphîbole-group; chain-silicates; staurolite-; mineral-assemblages; Karatash-Pluton; P-T-conditions; Bateni-Ridge; Kuznetsk-Alatau; Russian-Republic; West-Siberia

TI: A **chloritoid-bearing paragpnesis in** the **Macduff Slates** of central **Buchan.**
AU: Leslie-A-G
SO: Scottish-Journal-of-Geology. 24.. (3). p. .223-232. YR: 1988 LA: English
DE: Scotland-; petrology-; metamorphic-rocks; slates-; P-T-conditions; stractural-geology; tectonics-; paragenesis-; Great-Britain; United-Kingdom;, Western-Europe; Europe-; chloritoid-; nesosilicates:-; orthosilicates-; silicates-; chlorite-; chlorite-group; sheet-silicates; phengitic-muscovite:; muscovite-; mica-group; quartz-; silica-minerals; framework-silicates; opaque-minerals; faciès-; Macduff-Siate; Insch-; folds-; overprinting-; Aberdeenshire-; Dalradian-; Kincardineshire-; Buchan-

TI: Experimental study of **carboirite** and related phases in the system **GeO2 -SİO2 -A12 03 -FeO-H2 O at P upto 2 kbar.**
AU: Mliot-J-Y; Volfinger-M; Robert-J-L
SO:.Nfineralogy-and-PetroIogy. 36., (1). p.. 51-69. *'YR:* 1987 LA: English LS : French'
DE: minerals-; oxides-; germanates-; crystal-chemist^; phase-equilibria; GeO2-SiO2-A12-O3-FeO-H2-O; experimental-studies; bninogeierite-; synthesis-; stability-; X-ray-data; infrared-spectra; solid-solution; chloritoid-; nesosilicates-; orthosilicates-; • silicates-; germaniiim-; metals-; silicon-; aluminum-; iron-; water-; geochemistry-; P-T-conditions; carboirite-

TI: The occurrence and chemical composition of **chloritoid in the metamorphic** rocks of **the** Coast **plntonk-metamorphic** complex near **Junean.**
AU: Himmelberg-Glen-R; Ford-Arthur-B; Brew-David-A
SO: U.-S.-Geological-Snwey-C.ircular. p, 99-102, YR: 1986
DE : southeastern-Alaska; Alaska-; petrology-; metamorphic-rocks; faciès-; greenschist-facies; minerals-; nesosilicates-; chloritoid-; Western-U. S. ; United-States; Atlin-Quadrangle; chemical-composition; orthosilicates-; silicates-; Coast-Complex; Coast-Mountains; formula-; Juneau-region; mineral-assemblages; regional-metamorpMsm; metamorphism-; USGS-

TI: **Chloritoid** from **low-grade** pelitic **rocks** in. North Wales.
AU: Brearley-Adrian-J
SO: Nfinendogical-Magazine. 52 (Part. 3). (366),. p. 394-396. YR: 1988
DE: Wales-; petrology-; metamorphic-rocks; slates-; mineral-assemblages; Rhyd-Ddu; Snowdonia-; Gwynedd-; northern-Wales; Great-Britain; United-Kingdom; Western-Europe; Europe'-; Ordovician-; chloritoid-; nesosilicates-; orthosilicates-; silicates-; aluminosilicates-; low-grade-metamorp.hism; metamorphism-

TI: Widespread fluid **infiltration** during **metamorphisni ^pf the Witwatersrand goldfields;** generation of chloritoid and **pyrophyllite.**
AU: PMllips-G-N
SO: Joimial-of-Metamorphic-Geology. 6. (3). p. 311-332. YR: 1988
DE: South-Afiica; petrology-; metamorphism-evolution-; mineral-assemblages; Southern-Africa Africa-; Witwatersrand-; genesis-; Archean-Precambrian-; chloritoid-; nesosilicates-; orthosilicates-; silicates-; pyrophyllite-; sheet-silicates

Tl: Garnet-chloritoid equilibria im eclogitk petîtk rocks from tie Sesia Zorne (Western Alps); their bea.ri.iig on phase **relations m high** pressure met.apel.ites. -*
AU: Vuichard-J-P; Ballevre-M
SO: Joiimal-of^MetamoipMc-Geology. 6. (2). p. 13,5-157,. YR: 1988
DE: Alps-; **petrology-;** metamorphic-rocks; **metasedimentaiy-rocks;** metapelite«; Europe-; Western-Alps; Sesia-; phase-equilibria; minerals-; P-T-conclitions

TI: Cr-rieh. **Mg-chlorftoid,** a. first record In **high-pressure metagabbros** from **Monviso (Cottian** Alps), Italy,
AU: Kienasf-J-R; Messiga-B
SO: Mineralogical-Magazine. 51 (Part 5). p. **681-687.** YR: 1987
DE: Italy-; mineralogy-; nesosilicates-; minerals-; chloritoid»; Southern-Europe; Europe-; **Cottian-Alps;** Monviso-; metagabbro-; metaigneous-rocks; high-pressure; orthosilicates-; silicates-; metatroctolite-; chromium-; magnesium-

TI: Chloritofd-hornblende assemblages in «parte-**moscovite** peMtic rocks of the Central. **Metasedimentary Belt, GrenviHe Province,** Canada..
AU: Thompson-P-H; Leclair-A-D
SO: **Joumal-of-Metamoiphic-Geology.** 5. (3). p. 415-436, YR: 1987
DE: Canadian-Shield; petrology-; metamorpMc-rocks; schists-; mineral-assemblages; phase-equilibria; metamorphism-; P-T-conditions; Grenville-Pravince; North-America; pelitic-texture; Central-Metasedimentaiy-Belt; chloritoid-; nesosilicates-; orthosilicates-; silicates-; quartz-; silica-minerals; framework-silicates; muscovite-; mica-group; sheet-silicates; hornblende-; clinoampMbole-; amphibole-group; chain-silicates; petrography-;; Flinton-Group; Grenville-Supergroup

TI: Metamorphism **of** the **Witwatersrand** gold fields; conditions during peak **metamorphism.**
AU: PMllips-G-Neil
SO: Journal-of-Metamorphic-Geology. 5.. (3).. p. 307-32.2.. YR: 1987
DE: South-Africa.; economic-geology; gold-ores; mineral-deposits; genesis-; metamorphic-prooesses; Southern-Africa; Africa-; Transvaal-; Witwatersrand-; metal-ores; metamorphism-; greenschist-facies; metapelite:-; metasedimentaiy-rocks; regional-metamorphism; chloritoid-; nesosilicates-; orthosilicates-; silicates-; pyrophyllite-; sheet-silicates; mineral-deposits,-genesis; Jeppestown-Shale; Booysens-Shale; Precambrian-; P-T-ooonditions

TI: **Chloritoids; dependence of** the. optical properties. **upon** chemical variation **and** polytypic imtergrowtk
AU: Cooper-Brian-J
OS: Sam Houston State Univ., GeoL Prog., **Huntsville,** TX, United-States
SO: Abstiacts-with-Programs-Geological-Society-of-America. 18.. (6). p. 571 YR: 1986
DE: chloritoid-; nesosilicates-; orthosilicates-; silicates-; optical-properties; polytypism-; intergrowths-

TÏ: The tectonic implications' of .high-pressure **metamo.rphisin in the western** Alps«
AU: Fiy-N; Bamicoat-A-C
SO: Journal-of-the-Geological-Sociely-of-London. 144, (4). p. 6.53-659. YR: 1.987
BE: Alps-; petrology-; metamorphism-; P-T-conclitions; **high-pressure;** Europe-; 'Western-Alps; tectonics-; kyanite»; nesosilicates-; orthosilicates-; silicates-: chloritoid-; eclo.git.e-; lawsonite-; soresilicat.es-: opMolite-; ulteamafics.-

TI: Chloiitoid-bearing rocks associated with. **blueschisls and** eclogites,, northern New Caledonia.
.AU: Ghent-Edward-D; Stout-ivfavis-Z; Black-P-M; **Brothers-R-N**
SO^:. Jownal-of-Metamo.rphic-Geolo.gy.. 5. (2). p. 239-**254.** YR: 1987
DE: New-Caledonia; petrology-; metamorphic-rocks; faciès-; bİEeschist-facies; metamorphism-; P-T-conditions; indicators-; northem-New-Caledonia; Melanesia-; eclogite-; mineral-assemblages; chloritoid-; nesosilicates-; orthosilicates-; silicates-; metasedimentary-rocks; Tertiary-; glaucophane-; clinoampMbole-; amphibole-group; chain-silicates; phases-equilibria; geologic-thennometiy; geologic-barometry; gamet-grouj)

TI: Evidence **for** a **Variscan satnre zone in. the Vendee,** France; .a petrological **study of blueschist fades** rocks from. Bois **de** Cène*
AU: Gturaud-M; Buig-J-P; Powell-R
SO: Journal-öf-Metamorphic-Geology. 5. (2). p^. 225-237. YR: 1987
DE: France-; tectonophysics-; plate-tectonics; metamorphic-rocks; faciès-; blueschist-fades; metamorphism-; retrograde-metamorphism; high-pressure:; Vendee-; Western-Europe; Europe-; Bois-de-

Cène; suture-zones; glaucophane»; clinoamphibole-; amphibole-group; chain-silicates; silicates-; diloritoid-; nesosilicates-; orthosilicates-; schists-; mineral-assemblages; P-T-conditions

TI: Chloritoid-pynqphyllite-rectorite faciès rocks from. Brittany, France.
AU: Paradis-S; Velde-B; Nicct-E
SÖ: Conliibutions4o-Miner:alogy-and-Petro.lo,gy, 83.. (3-4), p. 342-347,. YR; 1983
DE : metamorphic-srocks ; faciès-; pseudomoiphism-; France-:; petrology-; pyrophyllite-; sheet-silicates; silicates-; chloritoid-; nesosilicates-;; orthosilicates«; rectorite-; clay-mineials; Paleozoic-; low-temperature;; black-shale;; clastic-rocks; chlorite-graup; stability-; electron-probe-data; shale-; Armorican-Massif; Finistère-;, Brittany-; sedimentaiy-rocks; Western-Europe; Europe-'

TI: Garnet and .staurolite producing- reactions in a chlorite-chloritoid schist.
AU: Karabinos-Paul
SO: Comtributions-to-Minexalogy-and-Petrology.. 90. (2-3),. p. 262-275., YR: 1985
DE; Jamaica-; petrology-; metamoiphism-; prograde-metaniorphism; phases-equilibria; schists-; reactions-; metainorpMc-rocks; chlorite-schist; garnet-; ciystal-zoning; staurolite-:; nesosilicates-; orthosilicates-; silicates:-; textures-; chemical-composition; Greater-Antilles; West-Indies; chemical-reaction

TI: Chloritoid-sOlimanite assemblage from North Carolina.
AU: Milton-Daniel-J
SO-: American-Mineralogist. 71. (7-8). p.. 891-894. YR: 1986
DE: North-Carolina; petrology-; metamorphic-rocks; mineral-assemblages; phase-equilibria; alumimosilicates-; stability-; minerals-; Mecklenburg-County; Soatheastern-U. S. ; Eastern-U.S. ; United-States; Piedmont-; Charlotte-Belt; westem-North-Carolina; chloritoid-; nesosilicates-; orthosilicates-; silicates-; sillimanite-; electron-probe-data; experimental-studies; quartzites-; P-T-conditions

TI: Condizioni termobariche delFevento statico a cloritoide e staurolite in Asp romonte.
Translated title: Pressure4emperature conditions of the static event in. chloritoid and staurolite in Aspromonte.
. AU': Ioppolo-S; Pezzino-A; Puglisi-G
SO: Rendiconti-della-Societa-Geologica-Italiajia. 6. (Suppl.). p- 3-4. YR: 1983

DE; Italy-; petrology-; metamoiphic-rocks; mineral-assemblages; phases-equilibria; metamorphism-; P-T-conditions; mesozonal-metamorphism; pa.ragenes.is-; sfauralife-; nesosilicates-; orthosilicates-; silicates-; chloritoid-; paragonite-; mica-gromp; sheet-silicates; electron-probe-data; Hercyniaii-Orogeny; Ca labria-; Apennines-; Southern-Eurcpe; Europe-; orogeny-; staictural-geology; South-Apennines; Aspromcmte-

Tt Margarite and chloritoid from, staurolite-kyanite zone rocks of the Hoosac Formation, SE Vermont
.AU: Downie-E-A
SO: Abstracts-wiih-Progmms-Geological-Society'-of-America. 15. (3),. p.. 190 YR: 1983
DE: Vermont-; petrology-; metamoiphic-rocks; schists-; composition-; metamoipMsm.-; grade-; indicators-; inclusions-; mineral-inclusions; P-T-conditions; phase-' equilibria; interpretation-; Hoosac-Formation; New-England; Eastern-U.S.; United-States; southeastern-Vermont; Chester-gneiss-dome; mineral-assemblages; chemical-composition; prograde-metamorpMsm; retrograde-metamorphism; textures-; alteration-; coexisting-rninerals; reactions-; ion-exchange

TI: II cloritoide nelle Alpi Apuane; un probable indkatore delà esistenza di un metamortismo pre-alpino.
Translated title: Chloritoid of Àpuan Alps; probable mdicater of existence of pre-alpine metamorphism.
AU: Rettigmieri-M; Tticci-P
SO: Periodico-di-Mneralogia. 52. (1). p. 83-96,
YR: 1983 LA: ItalianLS: English
DE: Itafy-; petrology-; metamorphic-rocks; schists-; chloritoid-; nesosilicates-; orthosilicates-; silicates-:; major-elements; textures-; metamorphism-; kinematics-; Paleozoic-; Apuane-Alps; Tuscany-; Southern-Europe; Europe-

TI: Local and regional differences in the chemical potential of water in amphibolite grade pelitte rocks.
AU: Dickenson-M-P
SO: Abstracts-with-Programs-Geological-Society-of-America. 16. (6). p. 488 YR: 1984
DE: metamorphic-rocks; geochemistry-; water-of-crystallization; New-Ha.mps.hire; petrology-; Moosilaiike-Quadïàngle; New-England; Eastern-U,S.; United-States; pelitic-texture; amphibolite-facies; gamet-group; nesosilicates-; orthosilicates-; silicates-; Gibbs-fechnique; chloritoid-; Motite-; mica-group; sheet-silicates,; chlorite-; chlorite-group; staurolite-; andalusite-; iron-;, magnesium-; phase-equilibria; chemical-analysis

Tl: Metamorphic transformations **of** an **Al-Mg g^bbro** into **a** talc + **kyanite** + garnet + cMoritoid + jadeite-bearing **pangpnesis, Val d'Aosta,** Italy.
AU: Kienast-J
SO: Tena-Cognita. 2. (3). p.. 307 YR: 1982
DE: Italy-; petrology-; metamoiplüc-rocks; fades-; edogite-facies; Southern-Europe; Europe-; Valle-d'Aosta; genesis-; gabbro-; gabbros-; ultramafics-; high-pressure; P-T-conditions; pyroxene-group; chain-silicates; silicates»

TI: High resolution **electron** microscopy of **chloritoid** minerals from different: geological, milieu.
AU: Subbaima-G-N; .Anantha-Iyer-G-V
SO: Proceedings-of-ihe-Indiaii-Acadeniy-of-Scienoes:-Chemicai-Sciences, 91. (1). p. 47-56. YR: 1982
DE: India-; mineralogy-; sheet-silicates; chlorite-group; minerals-; electron-microsoopy-data; sheet-silicates,-clüorite-group; Karnataka-; Indian-Peninsula; Asia-; Haute-resolution; lYunkur-; Hassan--

TI: Chloritoid and **staurolite** stability; implications for **metamorphism** in **the** Archaean **Yilgarn** Block, Western Australia.
.AU: Bickle-M-J
SO[l]: Joımal-of-the-Geolö^ **141.** (6),. p.. 1075 YR: 1984
DE: Western-Australia; petrology-; metamorphism-; P-T-conditions; amphibolite-fades; Australia-; Australasia-; Yilgam-Block; Archean-; Precambrian-; staurolite-; nesosilicates-; orthosilicates-; silicates-; chloritoid-; quartz-; silica-minerâls; framework-silicates; almandine-; .garnet-group; cordierite-; ring-silicates; andalusite-; mineral-assemblages; aureoles-;' Mgh.-grade-metamorphi.sin; low-grade-metamoipMsm.

TI: Conditions of formation of **garnet** and **staurolite** in a chloritoid. schist from VT*
AU: Karabinos-P
SO: Abstracts-with-Prograins-Geological-Society-of-America. 15. (3). p. 140 YR: 1983 LA: English
DE: Vermont-; petrology-; • metamorphic-iocks; mineral-assemblages; genesis-; metamorphism-; evolution-; effects-; phase-equilibria; P-T-conditions; Pimey-HoLlow-Fonnation; New-England; Eastern-U.S.; United-States; Jamaica-; Greater-Antilles; ' West-Indies; Taconic-Orogeny; Acadian-Phase; prograde-metamorpMsm; retro^grade-metam.o:rpMsm; textures-; zoning-; reactions-; stability-

TÏ: Chloritoid and staurolite: stability; implications for metamorphism in the Archaean Yilgarn Block., Western **Australia***
.AU: Bickle-M-J; Axchibald-M-J
SO: Joumal-of-MetamorpMc-Geol.o.gy. 2. (3). p. 179-203. YR: 1984 LA: English
DE: metamoip.tii.sm-; P-T-conditions; regional-:metamorphism; paragenesis-; processes-; Western-Australia; petrology-; metamorphic-rocks; chloritoid-; • nesosilicates-'; orthosilicates-; silicates-; staurolite-; crystal-chsnistry; phase-equilibria; Archean-; Precamhrian-; Yilgam-Block; Australia-; Australasia-; geologic-thennometiy; geologic-barometry; geothermal-gradient; Pioneer-Dome; Lake-Zot; Kalgoorlie-Norseman-Greenstone; interpretation-; amphibolite-facies; granite-greenstone^terranes; models-; mineral-assemblages

TI: A unique **magiiesiocliloiitoid-bearing,** high-pressure .assemblage from, the Monte **Rosa,** Western Alps; petrologic and (40)Ar-(39)Ar radi.omet.ric study.
AU: Chopki-C; Monie-P
SO: ComMbutioBs-to-Mineralogy-aiid-Petrology. 87.. (4).. p. 388-398,. YR: 1984 LA: English
DE: Alps-; petrology-; metamorpMc-rocks; mineral-assemblages; .absolute-age; 'dates-; Italy-; Switzerland-; Monte-Rosa; Western-Alps; Europe-; Ar/Ar-; phengite-; mica-group; sheet-silicates; silicates-; talc-;, chloritoid-; nesosilicates-; orthosilicates-; kyanite-; quartz-; silica-minerals; framework'Silicates; magnesium-; P-T-conditions; Southern-Europe; Central-Europe

TI: Electron **microprobe** analyses **of rock-forming** minerals from **the Sanbagawa metamorphic** rocks., iSMkoku; Part: HI.,. **Nakatsu-Nanokawa** and. Yanadani-Mikawa areas*
AU: Aiba-K; HigasMno-T; Sakai-C; Baimo-S
SO: Science-Reports-of-tàe-Kanazawa-Umversity.. 29., (1). p. 65-90. YR: 1984
DE: Japan-; petrology-; metainoipMc-rocks; composition-; chemical-composition; Far-East; Asia-; Sanbagawa-; electnm-probe-data; Nakatsu-Nanokawa; Yanadani'-Mikawa; CMcMbn-Belt; mafic-conqposition; chloritoid-; »sosilicates-; orthosilicates-; silicates-; metamorp.lii.sm-; Shikoku.-; actinolite-facies; prehnite-pumpellyite^-facies; instruments-; petrograpày-; mineral-composition

TI: Moessbaner and infrared **spectroscopk** studies of Belgian cWoritoids.

AU: DeGrave-E; Vankeberghe-R; Verdonck-L; de-Geyter-G
OS: Rijksuniv. Gent, Ghent, Belgilim
SO: Physics-and-Chemistiy-of-Minerals. İL. (2). p. 85-94.YR:'1984
AB: Chloritoid samples from the Stavelot Massif and. the Seipont Massif have been, characterized by chemical analyses and. differential X-ray diffraction. Moessbauer spectra at temperatures between. 78 and 360 K and in external magnetic: fields were obtained for a triclinic and for a manoclinic specimen. The spectra show a superposition of a weak Fe(3+) doublet (less than 10%) and. an intense Fe(2+) doublet,. A decomposition of the ferrous adsorption into two distinct quadmpole doublets leads to smaller deviations between experimental and calculated line shapes, especially at low temperatures. This suggests that. Fe(2+) is present in both cis .and trans 02 (QH)4 octahedral positions in. 'the trioctahedral layer.. Structural data, derived from, the: temperature dependence of isomer shifts and. quadmpole splittings, are found to be inconsistent with known ciystallographic data.. It is therefore concluded that Fe{2+) is present in only one type of lattice site and that the numerically imposed decomposition into two ferrous doublets is merely an artifact due to thickness saturation effects and to the distributive, character of the hyperfine parameters. The negative sign of the electric field gradient further confirms the assignment of 'the Fe(2+) doublet, to a cis octahedral configuration. Only minor differences exist between the Moessbauer results, for the triclinic and monoelieic chloritoid., The infrared absorption spectra, of the four samples are almost. identical except in. the region around 600 cm(-l) at. which the monoclinic phase exhibits two absorption, bands instead of one band for the: triclinic samples. All absorption bands can be well, assigned to the different vibrations. Inter-layer hydrogen bonding is evidenced by the occurrence of two vo-H absorption, bands,-Modified journal abstract.,.
DE; crystal-structure; nesosilicates-; chloritoid-; crystal-chemistry; minerals-; Belgium-; mineralogy-; orthosilicat.es-; Western-Europe; Europe-; mossfoauer-spectra; spectrascopy»; infrared-spectroscopy; Stavelot-Massif; Seipont-Massif; X-ray-data; chemical-composition; silicates-; lattice-

TI: Garnet and associated minerals in the southern margin of the Menderes Massif, Southwest: lYurkey.
AU: Ashworth-I-R; Evirgen-M-M
SO: Geological-Magazine. 121. (4). p.. 323-337., R: 1984
AB: Assemblages with muscovite+qnartz show a regular increase in grade from, the Chlorite Zone at the base of the Lycian. Nappe Complex to the Garnet Zone within the structurally underlying Menderes Massif. Biotite enters before garnet, which precedes oligoclase. Garnet-bearing assemblages in pelites • are compared with, those in re-equilibrated, quartzofeldspathic •.gneisses, where garnet is unusually calcic (in one case approaching GrossSQ AlmSO).. Garnet zoning» with Mn decreasing outwards,, is interpreted, as .growth zoning; Ca. decreases outwards in. pelite garnets but shows the reverse effect in the .gneisses. Chloritoid is common but rarely coexists with biotite, and gamet+cMorite+paiagomite is found rather than chloritoid+albite., Gamet-Motite geothermometoy, corrected for the effect of Ca. in garnets with up to 29 mole % grossular, indicates temperatures of 530+ or -50 degrees C near the garnet isograd ^Muscovite-paragonite geothermometry gives .an anomalous result., Metamoiphie pressure is considered in. the light of (i) Mn/F'e partition between garnet and biotite, (ii) Ca. content of garnet. coexisting with plagioclase+muscovite+biotite, (iii) Na in actinolite coexisting with albite+chlorite+magnetite, and. (iv) celadonite content of moscovite which, however, shows variation due to disequilibrium within a specimen and does not provide an accurate geobarometer. Comparisons with published studies indicate a strong similarity to the Barrovian Dalradian of Scotland and lead to a. tentative pressure estimate of approximately 5 kbar.—Modified journal abstract.
DE: Turkey-; petrology-; metamorphic-rocks; inetamorphism-; P-T-conditions; isograds-; .gneisses-; Middle-East; Asia-; garnet-group; nesosilicates-; orthosilicates-; silicates-; mineral-assemblages; southwestern-Turkey; Menderes-Massif; grade-; chlorite-zone; Lycian-Nappe-coniplex; biotite-; mica-group; sheet-silicates; oligoclase-; plagioclase-; feldspar-group; framework-silicates; shale-; clastic-rocks; quartzofeldspathic-gneisses; zoning-; retrograde-metamorphism; geologic-thermometiy; complexes-:;. chloritoid-; chlorite-; chlorite-gromp; paragonite-; muscov.it.e-; celadonite-; pressure-; composition-

TI: Mineral parageneses and metamorphic reactions in metasedimentary enclaves from the Archaean Gneiss Complex; of North-west India.
.AU: Sharma-R-S; JVindley-B-F
SO: Mneralogical-Magazine. 48 (Part. 2). (347). p.. 195-209.
YR: 1984
AB; Three metasedimentaiy enclaves. Banded Gneissic Complex (>2580Ma). The I^anite-cMoritoid-muscovite schist with quartz or corundum., and kyanite-fochsite-comndum+ or -diaspore was metamorphosed linder lower amphibolite conditions, and is thus not isofacial with, the surrounding[1] schists and gneisses (of tie

"basement[11] complex) which reached sillimanite-grade metamorphism in the last arogenic cycle (Aravalli: 1650-950Ma Orogeny) in Rajasthan. A calc-silicate rock occurs as a small lens,. Tie presence of two generations of wollastonite which formed during different metamorpMc events in'*the calcite-quartzr grossularite-ano^rthite^clinop^Toxene assemblage indicates polymetamorphism.. A metabasic rock, records a complete polymetamorphic history in discontinuous zones in gamet coexisting with homblende-chlorile-plagioclase-quaitz+ or -epidote. The mineralogy of the calc-silicate and metabasic enclaves gives a recrystallizaticm temperature of c. 700 degrees C and a pressure in the range of 8-3 fcbar during the second metamorphism.—Modified journal abstract.
DE: India-; petrology-; metamorphic-Focks; metasedimentaiy-rocks; metamorphism-; polymetamorphism-; evolution-; paragenesis-; Indian-Peninsula; Asia-; northwestem-India; Archean-; Precambrian-; gneisses-; ampMbolite-facies; prodgrade-metamorphism; retrograde-metamorphism; regional-' metamorpMsm; mineral-asseniblagjes; chemical-composition

TI: Mineral chemistry of regional chloritoid assemblages in the Chlorite Zone» Lytian Nappes,, South-west Turkey»
AU: Ashworth-J-R; Evirgen-M-M
OS: Univ.. Aston in. Birmingham, Dep. Geol. Sei..., Birmingham, United-Kingdom; Hacettepe Univ., Ankara, Turkey
SO: Mineralogical-Magazine. 48 (Part 2).. (347), p.. 159-165. YR: 1984
AB: Mn and inferred Fe(3+) contents of chloritoid are low. Chlaritoid+quartz occur rather' than the more hydrous equivalent pyrophyllite+chlorite, Fe/(Fe+Mg) values in chlorite ranging' down to 0.27. Calcite and. dolomite, which coexist with chloritoid and. pyraphyllite, give a. temperature estimate of 35CH- or -30 degrees. C, implying: moderate to high activities of •water' for pyrophyllite stability. Intensity of color in chloritoid correlates with inferred Fe(3+) content, which decreases outwards in grains showing prograde growth zoning.-Modified journal abstract
DE: Turkey-; petrology-; metamorphic-rocks; mineral-assemblages; chloritoid-; manganese-; geochemistry-; iron-; minerals-; nesosilicates-; Middle-East; Asia-; southwestern-Turkey; Lycian-Nappes; orthosilicates-; silicates-; paragonite-; mica-group; sheet-silicates; pyrophyllite-; calcite-; carbonates-; dolomite-; hematite-; oxides-

TI: Andalusitic and. kyanitic faciès series In the central Menderes Massif,, Turkey,.
AU: Evirgen-M-M; Ashwoith-J-R
OS: Hacettepe Univ., ffidrajeol. Muefaendisligi Bolumu,. Ankara,, Tuikey; Univ.. Aston, United-Kingdom
SOiNeues-Jahituch-faer-Nfineialogie,-
1984.. (5). p. 219-227. YR: 1984
AB: Coexisting with biotite+imiscovite+quartz, both. the faci.es series have chloritoid and staurolite zones, In. one: case these- are succeeded by andalusite+staurolite, in the other case by kyanite+staurofite with sillimaoite at some localities,. The kyaeite faci.es series is intermediate^ in pressure-type between the Barrovian and. Stonehavian of Scotland. The andalusitic: fades series is intermediate between 'the Stonehavian. and. classical lower-pressure- sequences with cordierite. The coexistence chloritoid+biotite is a useful indicator' of medium pressure in regional metamorphism.-Modified journal abstract..
DE: Turkey-; petrology-; metamorphism-; regional-metamorphism; faciès.-; metamorphic-rocks; mineral-assemblages; Middle-East; Asia-; Menderes-Massif; andahisite-; nesosilicates-; orthosilicates-; silicates-; kyanite-; Anatolia-; chloritoid-; staurolite-; petrography-

TI: Spectroscopic stadies on natural cbloritoids.
AU: Haalenius-U; Annersten-H; Langer-K
SO: Physics-and-Chemistry-of-Minerals. 7. (3).. p. 117-123. YR: 1981
DE: minerals-; nesosilicates-; chloritoid-; crystal-chemistiy; orthosilicates-; silicates-; àhsoiption-spectroscopy; polarization-; Mossbauer-spectra; iron-:; electron-probe-data; X-ray-powder-difBraction; cell-dimensions; geocàemistry-

TI: New ways of characterizing layered silicates and. their intercalates*
AU: Thomas-J-M
SOfMoscpMcal-Transactiootë
London,-Series-A:-Matliematical-and-Physical-Sciences. 311. (1517). p. 271-285.,
YR: 1984
DE: clay-mineralo,gy; experimental-stadies; methods-; X-ray-analysis; applications-; spectroscopy-; minerals-; sheet-silicates; mineral-data; photoelectron-methods; X-ray-diffraction-analysis; X-ray-spectroscopy; nudear-magnetic-resonance; silicates-; aluminum-; isotopes-; silicon-; Si-29; Al-27'; serpentine-; serpentine-group; smectite-; clay-minerals; kandite«; vermiculite-;

chloritold-; nesosilicates-; orthosilicates-; zeolite-group; framework-silicates

TI: Contrasted **metamorphic evolutions in Unlisted** cover units: of **the** Brianconnais Zone **(French** Alps); a model **for** the conservation **of HP-LT metamorphic** mineral assemblages,.
AU: Gofifè-B; Velde-B
SO: Eaith-and-Planeteiy-Sdence-Letters. 68. (2),. p.. 351-360,. YR: 1984
AB: The evolution of organic matter, silicate and fluid phases in cover **units** of the three **structural** zones of the Vanoise area allows one to distinguish different B-T cooling paths. All **units** first underwent a common high pressure, **low-temperature (HP-LT)** metamorphic stage (300 'degrees C; 6 kbar) of bloeschist type (Fe/Mg carpholite-chloritoid fades). The cover units transported on the external, colder zone (coal measure series metamorphosed in albite-chloiite faciès), preserved their HP mineralogy (Fe/Mg carphoiite, lawsonite) and. organic: matter content, (oils, wet gases and kerogen) while the unit, which .remained in contact with its more: thermally conductive basement. **(polymetamoiphic)** now shows extensive greenshdst faciès oveiprinting (breakdown of Fe/Mg carphoiite .and lawsonite, appearance of chlorite, pyrophyllite, choritoid and. clinozoisite; absence of oils, .and wet gases)..
DE; France-; petrology-; metaxnorphism-; CTol.uti.on-; mineral-assemblages; Western-Europe; **Europe-;** Alps-; French-Alps; **Brianoonnais-Zone;** P-T-conditions; Vanoise-; organic-materials; silicates«; bhieschist-; schists-; basement-; greenscMst-facies

TI: Metamorphism in chloritoid **and.** staurolite schists of the Hastings **metamorphic low,** southeastern Ontario..
AU: Leclair-A-D
SO: Program-wiih-Abstracts-GeologicM-Association-**Qf-Canada.** 8. p. A41 YR: 1983
DE; Ontario-; petrology-; metamorphic-rocks; schists-; phase-equilibria; SiO.2-Al.2-O3 -Fe0-Mg0-K2-0-H2-0; meiamoiphism-; temperature-; Eastern-Canada; Canada-; southeastern-Ontario; Hastings-metamoipMc-!ow; chloritoid-; nesosilicates-; orthosilicates-; silicates-; staurolite-; grade-; geologic-thermometry

'TI: **Chloritoid through** sıllmaıtite zone **metamorphism** of high-alumina **petites** from **the Hoosac Formation,** western Massachusetts.,
AU: Cheney-J-T
SO[1]: Abstracts-with-Programs-Geological-Society-of-America,. 12. (7).. p. 401 YR: 1980
DE: Massachusetts-; petrology-; metamorphism-; polymetamorphism-; isograds-; New-England; Eastern-U.S.; United-States; western-Massachusetts; Hoosac-Formation; schists-; mineral-assemblages; inclusions-; zoning-; muscovite-; .mica-group; sh.eet-silicat.es; silicates-; Acadian-Phase; Tacoıüc-Orogeny; chloritoid-; nesosilicates-; orthosilicates-; sillimanite-

TI: Chloritoid amphibolies from **the Pamur** area., **Andhra Pradesh, southern India.**
AU: Reddy-D-S; **Murly-M-S**
SO:: Tte-Canadian-MHeialogist.. 21 **(Part** 4). p., **661-**664.. YR: 1983
DE: India-; **petrology-;** metamoipMc-rocks; .ampMböiites-; minerals-; nesosilicates-; **chloritoid-;** Indian-Pemnsola; Asia-; **Andhia-Pradesh;** sonthern-India; **Prakasam-;** Pamur-; orthosilicates-; silicates-; greensçhist-facies; marl-; clastic-rocks; chemical-composition

TI: **Reversals** in partitioning **of** Fe and **Mg between** coexisting staurolite and **chloritoid.**
AU: **Grambling-J-A**
SO: Abstracts-with-P.rogr.anis-Geolo,gical-Societ3^of-America. 13. (7). p. 463 YR: 1981
DE: New-Mexico; petrology-; phase-equilibria; iron-; geochemistry-;; nesosilicates-; magnesium-; minerals-; ciystal-càemistry; partitioning-; Southwestern-U.S. ; United-States; nortaem-New-Mexico; **orthosilicates-;** silicates-; stauroüte-; chloritoid-; Trachas-Range; Precambrian-; quartzite-; schists-; stability-; .regression-analysis; statistical-analysis; P-T-conditions

TI: Notes on. petrography and rock-forntïiig mineralogy; (1.2)., **Chloritoid-bearing** rocks from **the** pumpellyite-actinolite fades **region of the Sanbagawa metamorphic belt** in western central Shikoku.
AU: .Aiba-K
SO^: GanseM-Kobutsii-Kosào-GakkaisM., 77. (1). p.. 18-22. YR: 1982
DE: *Japon.-;* petrology-; metamorphic-rocks; metasedimentary-rocks; metapelite-;' chloritoid-; nesosilicates-; orthosilicates-; silicates-; Sambagawa-Belt; Shikoku-; Far-East; Asia-; pumpellyite-actinolite-facies; pumpellyite-ficies; actinolte-; clinoamphibole-; ampMbole-group; chain-silicates; Chichibu-Zone; Nakatsu-Distnct; Kochi-Prefectuie

TI: Chloritoid through sillinianite zone metamorphism of high-alumina petites from the **Hoosac** Formation» western **Massachusetts.**
AU: Cheney-J-T

SO: Absttacts-with-P'rograms-Gcological-Society-of-America 12. p., 401 YR: 1980
DE: .Massachusetts-; petrology-; metamorphic-rocks; schists-; imneral-composition; metamorphisin-; grade-; Mgh-grade-metamorpMsim; Hoosac-Formation; New-England; Eastern-U.S.; United-States; western-Massachusetts; Gassetts-ScMst; Cambrian-; cMoritoid-; nesosilicates-; orthosilicates-; silicates-; sUlimanite-; shale-; clastic-rocks; mineral-assemblages; .garnet-' group

TI: Reversals ira Fe-Mg partitioning between chloritoid and staurolite.
AU: Grambling-J-A
SO: American-Mineralogist. 68. (3-4). p. 373-388 YR: 1983
AB: Chloritoid and stairolite coexist with. .Al silicate, chlorite, or .garnet + or - biotite in Precambrian quartzite and. schist from northern. New Mexico. The observed Fe-Mg reversal, is not related to variable P, T, or minor element content, including Fe(3+). However, it could arise from any of three factors: (1) Fe and Mg may occur on several cristallographie -sites in. one or both, minerals; (2) some Mg may not be exchangeable with Fe in staurolite; or (3) Fe and Mg may mix non-ideally in one or both phases.—Modified journal abstract.
DE; New-Mexico; petrology-;" metamorphic-rocks; mineral-assemblages; phase-equilibria; minerals-; partitioning-';; nesosilicates-; chloritoid-; crystal-chemistry; iron-; geochemistry-; magnesium-; Rio-Amba-Coimty; Mora-County; Southwestem-U..S, ; United-States; Sangre-de-Cristo-Mountains; Truchas-Range; coexisting-minerals; orthosilicates-; silicates-; staurolite-;. quartzites-; •schists-; textures-; reversals-; alununosilicates-; electron-probe-data; Precambrian-

TI: Monoclink chloritoid; calculations of unit cell volumes and densities in the pseudo-ternary system F&-Ctd-Mn-Ctd-Mg-Ctd.
AU: Haalenius-U
SO: lithos. 15. (3). p. 249-251... YR: 1982
DE: minerals-; nesosilicates-; chloritoid-; ciystal-stractore; density-; volume-; unit-cell; orthosilicates-; silicates-; regression-analysis; statistical-analysis; monoclinic-system; mineralogy-

TI: CMoritoid-bearing schists around Adyal, B h an cl ara District, Maharashtra.
AU: Bhaskar-Rao-B; Ramanathan-R-M " •
SO: Joumal-of-the-Geological-Soc^ 22. (7). p. 351-353. YR: 1981
DE: India-; petrology-; metamoipMe-rocks; schists-; P-T-condifioii.s; metamorphism-; chloritoid-; nesosilicat.es.-; orthosilicates-; silicates-; quartzites-; Mah.aras.htra-; major-elements; Indian-Peninsula; Asia-; Adyal-; Bhandaia-

TI: Ferro^buicopliane- and chloritoid-bearing metapelites from flie phyUite series,, southern Péloponnèse,, Greece.
AU: Kalagas-C
SO': :Mineralogical-Magazine,. 43.. (332).. p.. 975-978.. YR: 1980
DE: Greece-; petrology-; metamorphic-iocks; metasedimentary-rocks; metapelite-; Southem-Eurc^e; Europe-; Peloponnesus-; • mineral-assemblages; phyllites-; petrography-; chemical-composition; electron-piobe-data; coexisting-minerals

TI: Chloritoid stability in very iron-rich altered pillow lavas..
AU: La-Tour-T-E; Kemch-R; Hbdder-R-W; Bainett-R-L
SO; Contributions4o-MnefalO'gy-and-Petrolo,gy. 74, (2), p. 165-173. YR; 1980
DE: isotopes-; oxygen-; (M 8/0-16; metasomatism-; processes-; hydrothermai-alteration; Ontario-; petrolo,gy-; metasomatic-rocks; geochemistry-; lava-; pillow-stracture; Eastern-Canada; Canada-; metavolcanic-rocks; cMoritoid-; nesosilicates-; orthosilicates-; silicates-; Aichean-; Precambrian-; Wawa-; Helen-Fonnation; stable-isotopes; chlorite-; chlorite-gronp; sheet-silicates; quartz-; silica-minerals; framework-silicates; ilmenite-; oxides-;, causes-

TI: Kyanite and chloritoid phylites- from the chlorite zone of the: SW Scottish Highiands*
AU: Burgess-J-G; Graham-C-M; Harte-B
SO: fomn.al-of-the-GeolO'gical-Society-of-London. 138 (Part 5). p. 634 YR: 1981
DE; Scotland-; petrology-; m.etamorpMsm-; regional-metamorpMsm; low-grade-nietamoipMsm; metamorphic-rocks; pkyilites-; mineral-composition;-Great-Britain; Umted-Kingdom; Western-Europe; Europe-; kyanite-; nesosilicates-; orthosilicates-; silicates-; mineral-assemblages; NoiAem-ffighlands; Grampian-Highlaiids

TI: Chloritoid.
AU:M*e~P-H
SO: Ribbe, P. H. Orthosilicates. Va., Polyteck Inst. State Univ.., Dep. GeoL, Blacksburg, VA, United-States., Reviews-in-Mineralogy. 5., p. 155-169..

YR: 1980
DE: minerals-; orthosilicates-; cM.orit.oid-; silicates-; ciystal-stnictaxe; aysM-chemistiy; nesosilicat.es-

TI: Lower Paleoasoic cMoritoii-beariiig racks from South-east Ireland.
AU: Sbannon-P-M
SO: &.-Nat-J. .19,. (7). p. 222-227,. YR: 1978.
DE: Ireland-; petrology-; metamoiphic-rocks; mmeral-asseniblages; • cMoritoid-; arthosilicates-; silicates-; slate-; slates-; schist-; schists-; andalusite-; occurrence-; Europe-; Bal.lyiane-S.hale; Cambrian-; .Paleozoic-; Ordovician»; New-Ross; QQgate-; Polldanig-Fonnation; River-Slaney, BaUynamuddagh-Gianite; composition-; geochemistry-; tectonics;-; mineials-

TI: Chloritoid reck, a possible: metamorphosed aluminious latérite deposit from eastern Taiwan.
AU: Fei-Yuan-Chen; Liou-J-G
SO: Alumina .and Aluminum conference. Tiav.-Com.-InL-Etud-Bauxites,rA]iiin.-AIiiia (15). p.. 223-235. YR: 1979
DE: Taiwan-; economic-geology; bauxite-; minerals-; orttiosilicates-; chloritoid-; metaniorpMc-rocks; schists-; composition-; Asia-; silicates-; hauxxtization-; geochemistry-

TÏ: Chloritoid-formiiig reaction in. . the eastern Scottish Dalmdian; a possibility.
AU: Baltatzis-E
YR: 1980
DE: Scotland-; petrology-; metamoiphic-rocks; mineral-assemblages; cMoritoid-; mefamoipMsm-; grade-; low-grade-metamorphism; Europe-; Stonehaven-; Daliadian-; Precambrian-; Cambrian-; Paleozoic-; retrograde-metamoiphism; orthosilicates-; silicates-; kaolinite-; sheet-silicates; pyropliyilite-; chemical-composition; schist-; schists-; Grampian-Highlands

TI: Chloritold-stanrolite assemblages in central Perthshire; discussion.
AU: Harte-B
SO: Geol-Mag, 117. (6). p. 615-616. YR: 1980
DE: England-; petrology-; metamoiphic-rocks; mineral-assemblages; evolution-; minerals-; orthosilicates-; staurolite-; Europe-; Perthshire-; chloritoid-; silicates-

TI: Microscope-photometric methods for non-destructive Fe(2+)-Fe(3+) determination im. chloritoids (Fe(2+), Mn(2+), Mg)2(Al, Fe(3+)) 4Si.2O10{OH)4.
AU: Haelenins-U; L^angei-K
SO: LMios. 13. (3).. p. 291-294,.
YR: 1980
DE: minerals-; ^orthosilicates-; chloritoM-; aystal-chemistry; mineialogy-; methods-; niicroscope-methods; ciysMtography-; spectmscopy-; Mossbauer-spectroscopy; silicates-; :mimeral-data; natural-materials; iron-; analysis-; Mossbamer-spectra.; electron-probes-data; fenous-iron; ferric-iron; experimental-studies; electron-probe; pàotometiy-

TI: The structure of tiiclinie chloritoid. and chloritoid polymorphism.
AU: Hanscom-R
SO: Am.-Mîneral. 65. (5-6). p. 534-539. YR: 1980
DE:" Quebec-; mineralogy-; ortfaosilicates-; minerals-; cMoritoid-; ciystal-strartuare; Canada-; Chibougamau-; silicates-; polymorphism-; triclinic-system; refinement-; bonding-; coordination-; natural-materials

TI: Calculated mineral equilibria in. the pelte system, KFAfASH (K20-Fe0-Mg0-A]203-Si02-H2O)..
AU: Powell-Roger; Holland-Tim
SO: American-Mneralo.gisi 75.. (3-4). p., 367-380,. YR: 1990
DE; phase-equilibria; • taeoretical-stodies; K2O-FeO-MgO-A12O3-SiO2-H2O; metamOiipMc-rocks; minerai-assemblages; metamootphism-;- P-T-conditioms; coexisting-mineials; mnerals-; silicates-; ataminosilicates-; . KFMASH-; thermodynamic-properties; pelitic-textore; metasedi:mentary-rocks; staurolite-; nesosilicat.es:-;, orthosilicates-;; chloritoid-; 'chlorite-; chlorite-group; sheet-silicates; biotite-; mica-group; cordierite-; ring-silicates; garnet-group; andalusite-; sillimamte-; kyanite:-; muscovite-; quartz-; silica-minerals; framework-silicates

TI: Metamorphic mineral assemblages of slightly calcic pditic rocks in and around the Taconic x\llochthon, southwestern Massachusetts and adjacent Connecticut .and New York.,
'AU:Zen-E-an
SO': U.-S.-Geological-Survey-Professio^nal-Paper.. 128 p. YR: 1981
AB: Slightly caldc pelitic^ rocks in. the Täconic Allochthon of southwestern Massachusetts and adjoining New York and Connecticut were studied mimeralogically and chemically. Mcroprobe as well as wet-chemical analyses of many samples of 12 different, minerals provided the basis: for a .muMsystematic analysis of the observed, mineral assemblages., observed miiieralogical isograds were interpreted.. Calcium is a significant element in almandinic garnet, chlorite, hornblende* epidote, and plagioclase; its essential role

in garnet, provides, the key to the inteipietation of mineral assemblages that contain coexisting .gamet, chlorite, chloritoid, biotite, Muscovite, and quartz.. Evidence is adduced that a Taoonian regional metamorphism preceded the dominant Acadian metamorphism.—from. New Publications of the Geological Survey, April 1981.
DE: Massachusetts-; petrology-; metamorphic-rocks; Connecticut-; New-York; mineral-assemblages; phase-equilibria; metamorphism-; polymetamorpMsm-; interpretation-; Acadian-Phase; ailochthons»; calcic-composition; New-England; Eastern-U. S. ; United-States; electron-probe-data; geochemistry-; isograds-; orogeny-; P-T-condMons; pelitic-texture; regional-' metamorphism; Taconic-Allocàthon; Tacanic-Orogeny, USGS-

TI: Andahisite in the metamorphic aureole of the Bushveld Complex,
AU: Hammerbeck-E-C-I
SO: Anhaeosser, C, R„, Maske, S. Mineral deposits of Southern Africa, p. 993-1004. YR: 1986
DE: South-Africa; economic-geology; ceramic-materials; Busfaveld-Complex; andahisite-; nesosilicates-; orthosilicates-; silicates-; contact-' metamorphism; metamorphism-; Pretoria-Group; metamorphic-processes; mineral-deposits,-genesis; coidierite-; ring-silicates; biotite-; mica-group; sheet-silicates; host-rocks; alteration-; soils-; Southern-Africa; Africa-; production-; stratigraphy-; distrifoution-; chemical-composition; qualitative-analysis; silli.manit.e-; chloritoid-; Transvaal-

TI: Calculated rn.in.eol equilibria in the pelite System, KFMASH (iaO-FeO-MgO-A1203-Si02~ H2O).
AU: Powell-Roger; Holland-Tim
SO: American-Mineralogist 75. (3-4). p., 367-380.. YR: 1990
DE: phase-equilibria; theoretical-studies; K2O-FeO-MgO-A12O3-SiO2-H2O; metamorphic-rocks; -mineral-assemblages; metamorphism-; P-T-canditions; coexisting-mlnerals; minerals-; silicates-; aluminosilicates-; KFMASH-; themodyiiamic-prqperties; pelxtic-texture; metasedimentary-rocks; staurolite-; nesosilicates-; orthosilicates-; chloritoid-; chlorite-; chlorite-group; sheet-silicates; biotite-; mica-group; cortierite-; ring-silicates; garnet-group; andalusite-; sillimaitite-; kyanile-; moscovite-; quartz-; silica-minerals; framework-silicates

TI: Sudoite, a rock-forming mineral in Vermcano of the Northern .Apennines (Italy) and the sudoite-chloritoid-pyrophyllite assemblage in. prograde metamorphism.
AU: Franceschelli-M;; MeDini-M; Memmi-I; Ricci-C-A
SO: Contributions-to-Miner.al.o.gy-.and-Petrology.. 101. (3). p. 274-279.
YR: 1989
DE: minerals-; sheet-silicates; chlorite-group; sudoite-; metamorphism-; prograde-metainorphism; mineral-assemblages; Italy-; petrology-; steet-silicates.-cliloote-group; silicates-; pyxophyllite-; cMoritoid-; nesosilicates-; orthosilicates-; mnscovite-; mica-group; paragonite-; chemical-composition; Tuscan^-; Emilia-Romagna.; Apennines-; Sonthem-Enrope; Europe-; Vemicano-

TI: A chloritoid-bearmg parag^nesis in the MacdufF Slates öf central Bu ch an,
AU: Leslie-A-G
SO: iScottish-Journal-of-Geotogy.. 24. (3).. p.. 223-232..
YR: 1988
DE: Scotland-; petrology-; metamo'rphic-rocks; slates-; P-T-oonditions; stnictiiral-geology; tectonics-; paragenesis-; Great-Britain; United-Kingdom; Western-Europe; Europe-; chloritoid-; nesosilicates-; orthosilicates-; silicates-; chlorite-; chlorite-group; sheet-silicates; phengitic-muscovite; muscovite-; mica-group; quartz-; silica-minerals; framework-silicates; opaque-minerals; fades.-; Macduff-Slate; Insch-; folds-; overprinting-; Aberdeenshire-; Dalradian-; KincardmesMre-; Buchan-

TI: Petrogenetic Implications of chloritoid-hornblende-moscoviAe pelific rocks in the Central Metasedimentary Belt, SW Gramlle Province.
AU: Thompson-P-H; Ledair-Alain-D
SOcProgram-with-Absta.cts-Geologieal-Association-of-Canada^Minei^ogical-Assodation-of-Canada;-Canadian-Geophysical-ünion^JoiM-AnnBal-Meeti 12. p. 96 YR: 1987
DE: Canadian-Shield.; petrology-; metamoipMc-rocks; chlorite-; chlorite-group; sheet-silicates; silicates-; hornblende-; clinoamphibole-; amphibole-group; chain-silicates; muscovite-; mica-group; slates-; schists-;* Qrenville-Province; Central-Metasedimeotary-Belt; chemical-composition; minexal-composition; pelitic-texture; North-America; genesis-

TI: Timing .ani. conditions of deformation and metamorphism of the structural packages east of Harrison Lake, B.C.
AU: Bennett-Jeffrey-D

OS: Western **Washington** University,, **United-States;** Master's
YR: 1989
AB; Metamorphosed oceanic and arc-related lithologies of the **Stollicnm,** Cogbum and **Settler packages** crop out to **the** east of Harrison Lake, B.C., within the southern Coast Plutonic Complex and. represent **the** northern extension of the Cascade orogenic belt.. The Cretaceous Spuzzum plutons intruded the packages in late syn- to post-metamcnrphic time, and several early Tertiary stocks intruded all units after deformation. The Slollicum package is dominated by graphitic to' politic phyllite, and felsic to mafic .arc: volcanics intercalated with marble, conglomerate and. quartzite. The sediments dominate western exposures, and eastern exposures are mainly volcanics. U-Pb analysis of zircon in a 'volcanic interbed gives a concordant 146- .Ma. depositional age for the Slollicum package.. The Cogjburn package is composed of structurally juxtaposed blocks of graphitic phyllite, mafic metavolcani.es, banded, chert and marble. **Seipentinite** is common.. The Settler package is dominated by pelitic schist, interlayered with quartzite, amphibolite and conglomerate. Foliations generally strike northwest,, dip northeast and *me* accompanied, by down-dip stretching lineations. Kinematic indicators show orogen-nonnal reverse-slip. Cleavage in the Slollicum package exhibits a strong influence of pressure solution. Cogburn and Settler packages each show 'two foliations, one; preserved in poikiloblastic minerals and a dominant crenulation cleavage. The Harrison Lake shear zone is a late: stage, right-lateral strike-slip' shear zone that locally prints across the earlier fabrics after Spuzzum plutonism .and prior to the intrusion of the early-Tertiary stocks. Metamorphic .grade increases eastward from the chlorite and. biotite zones of the greenschist faciès in the Slollicum package to the gamet zone of the greenschist faci.es and the oligoclase/homblende zone of the amphibolite fades in the Cogburn package through the staurolite zone to 'the sillimamte zone of the: amphibolite faciès, in. the Settler package. Geothermobarometry indicates pressures of 3 to 4.5 kb in the biotite zone and 5.5 kb in the sillimanite zone. Temperatures in the sillimanite zone range up to approximately 750 degrees C. A poly-metamorphic history is indicated by pseudomorphs of kyanite after' andalusite in. the Settler' package. Lineation-parallel slip on foliation planes, evidenced by augen-shaped and, boudinaged metamorphic: minerals indicates syn- to post-metamorphic deformation..
DE: British-Columbia; **structural-geology;** structural-analysis; foliation-; petrofabrics-; Western-Canada; Canada-; Harrison-Lake; **Slollicum-Suite;** Settler-Schist; Cogburn-Suite; deformation-; age-; Coast-Plutomc-Complex

TÏ: **Kyanite** paragpeisses **in the Dragsano** Group **(Paring Mountains,** South **Carpathians)«**
AU: Solomon-I
SOiMneralogie-Petrologie-Geoclumie.. 70-71. (1).. p. 339-343„YR: 1983 [1.986]
LA: English LS: French; Romanian
DE: Romania-; petrology-; metamorphic-rocks; metasedimentaiy-rocks; paragneiss-; metamorphism-; prograde-metamorphism; ampfaibolite-facies; gneisses-; kyanite-; ~ nesosilicates-; ortho-silicates-; silicates-; **almandine-;** garnet-group; staurolite-; mineral-assemblages; Paring-Mountains; Tran.sylvani.an-Alps; faciès.-; Carpathians-; Europe-; Southern-Europe; **Dragsanu-Group**

TI: Metamoiphic history in **the** Bergen Arcs, Norway, as determined from, **amphibole** chemistry.
AU: **Fossen-H**
SO: **Norsk-Geologisk-Tîdsskrift.** 68. (4). p. 223-239.
YR: 1988
DE: Norway-; petrology-; metamorphism-; evolution-; mineral-assemblages; Scandinavia-; Western-Europe; Europe-; grade-; chemical-composition; kyanite-; nesosilicates-; orthosilicates-; silicates-; staurolite»; paragenesis-; fabric-; electron-probe-data; amphibole-group; chain-silicates; garnet-group; Bergen-; Bergen-Arc

TI: **Intersecting isograde**s, a possible 'way **to** find out the **polymetamorphisin;** am example; the **Somes** series.
AU: Hartopanu-I; Hartopaon-P
SOiMineralogie-Petrologie-Geochimie. 70-71. (1). p., 291-299. YR: 1983 [1986]
LA: English LS: French
DE: Romania-; petrology-; metamorphism-; polymetamorpMsm-; isograds-; phase-equilibria; silicates-; experimental-studies; mineral-assemblages; biotite-; mica-group; sheet-silicates; chlorite-; chlorite-gioup; .kyanite-; nesosilicates-; orthosilicates-; staurolite-; almandine-; garnet-group; crystallization-; polyphase-processes;, new-methods; Apuseni-Mountains; Southern-Europe; Europe-; Gilau-Mountains; Somes-Series

TI: Calculated mineral **equilibria in the** peife system, KIMASH **(K2O-FeO-MgO-A12O3-SiO2-H2O).**
AU: Powell-Roger; Holland-Tim
SO: **American-Minfiralogist.** 75. (3-4). p. 367-380..
YR: 1990

DE: phase-equilibria; theoretical-studies; K2O-FeO-MgO-A12O3-SiO2-H2O; metamoipMc-racks; mineral-assemblages; metamorphism-;- P-T-conditions; ooexisting-minerals; minerals-;, silicates-; aluminosilicates-; KFMASH-; tàermodynamic-properties; peliti.c-text.uxe:; mefâsedimentaıy-rûcks; stanrolite-; **nesosilicates-;** ùrtlosilicates»; **chloritoid-; chlorite-;** chlorite-group; sheet-silicates; Motile-; mica-grcrap; cordierite-; . ri.ng-silicates; **garnet-group;** andalixsite-; sUlimanite-; kyanite-; musoovite-; quartz-; silica-minerals; framework-silicates:

TI: Petrology of am andaliisite-type regional met amor phi s m in Öoda, Kashmir Himalaya, .India.
AU: Das-Brijraj-K
OS: Panjab Univ., Cent., Adv., Stud., GeoL, Chandigarh,, India; Univ. Delhi,, Dep. **Geol.,** Delhi, India
SO: Delhi, Dep., **Geol.,** Delhi, India., 12,. p., **17-41.**
YR: 1989
DE: India-; petrology-; metamorpbism-; regional-metamoipMsm; P-T-conditions; phase-equilibria; metamoiphic-rocks; textures-; pelitie-textore; Himalayas-; Indian-Peninsula; Asia-; andalesite-; nesosilicates-; orthosilicates-; silicates-; Doda-; **Jammu-and-Kashmir;** * Kashmir-Himalayas; Salkhala-Gropp; Precambrian-; garnet-group; **staurolite-;** kyanite»; electron-probe-data; zoning-; chemical-composition; interpretation-

TI: A petrogenetic grid for pelitk schists in **the** system, **SİO2** -All **O3 -FeO-MgQ-K2** O-H2 O.
AU: **Spear-Frank-S;** Cheney-J-T
SO: Contributions-to-Mine-ralo^gy-and-Petrology.. 1§1. (2).. p., 149-164,. YR: 1989
DE: metamoiphic-rocks; schists-; phase-equilibria; SiO2-A12-O3-FeO-MgO-K2-O-H2-O; metapelite-; metasedimentaiy-rocks; silicon-; ahiminnm»; metals-; iron-; magnesium-; aikaline-eairth-metals; potassium-; alkali-metals; oxygen-; garnet-group; nesosilicates-; orthosilicates-; silicates-; chlorite-; chlorite-group; sheet-silicates; biotite-; mica-group; cordierite-; ring-silicates; staurolite-; talc-; kyaoite-; andalmsite-; sUlimanite-; pyrophyilite-; quartz-; silica-minerals; framework-silicates; musoovite-; K-feldspar, alkali-feldspar; feldspar-group; thennodynamic-pipp^rties; geochemistry-; properties-

TI: Am early **Proterozoic P-T(t) path** from, **a** metapelite. Black Mills, South Dakota.
AU: Teny-M-P; Friberg-L-M
SO: Abstracts-with-Pïograms-Geologicai-Society-of^ America, 21. (4). p. 49 YR: 1989

DE: South-Dakota; petrology-; metamorphism-; Harney-Peak-Gianite; Proterozoic-; mpper-Precambrian; Precambrian-; P-T-conditions; metapelite-; metasedimentaiy-rocks; metamorphic-Focks; Midwest-; United-States; Black-Hills; soutlwestem-South-Dakota; electron-probe-data; inclusions-; zoning-; garnet-group; nesosilicates-; orthosiMcales-; silicates-; mineral-assemblages; tectonics-; quartz-; silica-minerals; framework-silicates; **staurolite-;** chlorite-; chlorite-group; sheet-silicates; oligödase-; plagioclase-; feldspar-group; biotite:-; mica-group; musoovite-; kyanite-; sillimanite-; intrtisions-

TI: Mineral assemblages and compositional **variations, Barrovian metamorphic** sequence:, near Jpneau,.
AU: ffimmelbexg-G-R; Ford-A-B; Biew-D-A ' •
SO: U.-S.-GeologicM-Survey-Professional-P'aper. p., 80
YR: 1982 [1983]
DE: southeastern-Alaska; Alaska-; petrology-; metamorphic-rocks; ' mineral-assemblages; inte^rpretation-; Westein-U. S.; United-States; Bairovian-metamorphic-zone; biotite-; mica-groiip; sheet-silicates;; silicates-; Blackerby-Ridge; **cartography-;** garnet-group; nesosilicates-; orthosüicates-; isogräds-; **Juneau-;** kyanite-; mineralogy-; research-; sillimanite-; stauiolite-; USGS-

TI: Experimental studies **on metamorphism** of **crnstal** rocks- under mantle **pressures.**
AU: Schreyer-Werner
SO: MineTalogical-Magazine., 52 (P.art 1). (364)., p., 1-26. YR: 1988
DE : metamorphic-Tocks; metasedimentaty-rocks; metapelite-; phase-equilibria; silicates-; MgO-A12-O3-SİO2-H2-O; metamorphism-; P-T-conditions; experimental-studies; mineral-assemblages; geologic» •thermometry; geologic-foarometiy; s^doite-; chlorite-gioup; sàeet-siïicates; chloritoid-; nesosilicates-; orthosiMcales-; yoderite-; staurolte-; pumpeUyite-; sorosilicates-; ellenbergite-'.; **talc-;** phengite-; mica-group; kyanite-; pyrppe-; garnet-group; **carpholite-;** chain-silicates; chlorite-; K-feldspar; alkali-feldspar; feidspar-graıp;- framework-silicates; **mantle-;** crust-; partial-melting

TI: **The** case for retrograde chlorite **in** staurolife-**garnet-tvro-mica schist.**
AU: Holdaway-M-J; Geving-R-L; Goodge-J-W; Dickerson-R-P; Dutrow-B-L
SO: Absixacts-mth-Progranis-Geological-Society-of-America. 19.. (7). p.. 705 YR: 1987

DE; metamorphic-iocks; schists-; mnefal-conıpositiön; retTograde-metamorphism; mefamorphism-; staıırolite-; nesosilicates-; orthosUicates-; silicates-; sheet-silicates,-mica-group; orüıosilicates,-gamet-gromp; chlorite-; chlorite-group; sheet-silicates; sUlimaidte-; .kyanite-; P-T-conditions; Maine-; New-England; Eastem-U. S. ; United-States; Nevada-; Western-U.. S. ; Hamptön-Creek; Snake-Range; New-Mexico; Southwestern-US»; Pichn's-Range

TI: Kyanite-stanrolite-biothe-garnet in pelitle schists; extra components and implications for buffering of fluid,
AU: Giaramita-M-J; Day-Howard-W
SO: .Abstracts-with-Pfogiams-Geological-Society-of-America. 19. (7). p. 675 YR: 1987
DE: metamorpMc-rocks; schists-; mineral-assemblages; mineral-composition; .kyanite-; nesosilicates.-; orthosilicates-; silicates-; staıırolite-; biotite-; mica-group; sheet-silicates; orthosilicates,-garnet-group; isograds-; ampMbolite-facies; KFMASH-; data-processing; Fortran-; compiier-progxanis; phase-equilibria; trafiers-

TI: Evidence from garnet zoning for over-thrustmg in the: eastern Maryland. Piedmont.
AU: Lang-Helen-Nf"
SO : • Absttacts-with-PrO'grarns-Geological-Society-of-America. 19. (1). p. 24 YR: 1987
DE: Maryland-; petrology-; metamoiphic-rocks; Baltimore-Gneiss; Eastem-U. S.; United-States; eastern-Maryland; Piedmont-; Phoenix-Nappe; thrust-faults; faults-; mneral-assemblages; garnet-group; nesosilicates-; orthosilicates»; silicates-; Bunt-Valley-Mall; biotite-; mica-group; sheet-silicates; staurolite-; kyanite-; sillimanite-

T1: Pressure* temperature, and structural evolution of the Orfordvilfc Belt» west-central New Hampshire.
AU: Spear-Fxank-S; Rumble-Douglas III
SO: Jounial-of-PWiology. 27. (5). p. 1071-1093.. YR: 1986
DE: New-Hampshire; petrology-; metamorphism-; P-T-conditions; interpretation-; .metamorphic-rocks; ampMbolites-; mineral-assemblages; phase-equilibria; inclusions-; mineral-inclusions; garnet-group; paragenesis-; Littleton-Formation; Partridge-Formation; Bethlehem-Gneiss; Ammonoosuc-Volcanics; Alber-Formation; Oliverian-Gneiss; -Qrfbrdville-Belt; west-central-New-Hampshire; New-England; Eastem-U.S.; 'United-States; nesosilicates-; orthosilicates-; silicates-; kyanite-; staurolite-; cooling-; deformation-; geologic-thermometry; geologic-baiometry; Monnt-Cube-Quadrangle; Hanover-Quadrangle; Paleozoic-; plagioclase-; feldspar - group; framework - silicates; zoning-; foliation-

TI: Regression modeling af metamorpbic reactions in. metapdites, Snow Peak, northern Idaho.
AU: Lang-Helen-M; Rice-Jack-M
SO: Journal-of-Petrology,. 26. (4). p.. 857-887. YR: 1985
DE: Idaho-; petrology-; metamorphism-; regional-metamoiphism; 'P-T-conditions; metamorphic-rocks; metasedinientaiy-rocks; metapelite-; Clearwater-; Shoshone^; Belt-Siqiergnnq); Prichaid-Formation; Wallace-Formation; Snow-Peak; northern-Idaho; Idaho-Batholith; Clearwater-County; Shoshone-Coimty; Western-U, S. ; United-States; mneral-assemblages; cMorite-gionp; sheet-silicates; silicates-; biotite-; mica-group; garnet-group; nesosilicates-; orthosilicates-; kyanite-; staıırolite-; zoning-; prograde-metainorphism; ilmenite-; oxides-; statistical-analysis; models-; dehydration-; Bathtub-Mountain

TI: Metamorphic reactions in the kyanite and sillimanite zones off the Harrovian type area,.
AU: MdLellan-Eileen
SO: Jonmal-of-Petrology. 26,. (4).. p. 789-818.. YR: 1985
DE: Scotland-; petrology-; metamorphism-; regional-metamorphism; P-T-conditions; metamorphic-rocks; metasedimentary-rocks; mineral-assemblages; inclusions-; mineral-inclusions; stauroiite-; Barrovian-; Tay-Nappe; Dalradian-; Caledoni an-Orogeny ; Grampian-Highlands; Great-Britain; United-Kingdom; Western-Europe; Europe-; kyanite-; nesosilicates-; orthosilicates-; silicates-; sillimanite-; biotite«; mica-group; sheet-silicates; muscovite-; garnet-group:; Ben-Lui-ScMst; PMochry-ScMst; zoning-; dehydration-; ion-exchange; geologic-thermometr)[r]; geologic-harometcy

TI: Heat capacities and entropies of sillimanite» fibrolite, andahisite» kyanite, and quartz ani the A12SİO5 phase diagram,,
.AU': Hemingway-Bruce-S; Robie-Richard-A; Evans-Howaid-T Jr; Kerrick-Derrill-M
SO: American-Miaeralogist. 76.. (9-10). p. 1597-1613. YR: 1991
DE: geochemistry-; properties-; fhermodynamic-properties; phase-equilibria;; aluminosilicates-; experimental-studies; minerals-;; nesosilicates-; sillimanite-; andalusite-; k5[r]anite-; framework-silicates; silica-minerals; quartz-; crystal-growth; entropy-; heat-cqpacity; equations-; low-temperature:; mineral-data; silicates-; orthosilicates-; polymorphism-; Montana-;

Western-ILS.; United-States; framework-silicat.es,-silica-minerals; natural-materials; crystal-structure^

TI: Precise: **determinations** of **the equilibria kyanite** - sillhnanite and **kyanite-andahisite and a** revised. triple point **for Â12SİO5** polymerpifs»
AU: Boiilen-Steven-R; Montana-Art; Kemck-Demll-M
SO: American-Mineralogist 76.. (3-4). p.. 677-680, YR: 1991 ' - •
DE: minerals-; nesosilicates-; andahisite-; sillimanite- ; kyanite-; aluminosilicates-; phase - equilibria; experimental - studies; polymorphism-; silicates-; orthosilicates - ; P-T-condi.ti.ons; natural-materials

TI: Static. lattice **energy minimization** and lattice: **dynamics calculations on ahiminosilicate minerals.**
AU: Winkler-Bjorn; Dove-Martin-T; Leslie-Maurice
SO: Ameri.can.-Mineralogi.st.. 76.. (3-4). p. 313-331. YR: 1991
DE: minerals-; aluminosilicates-; ciystal-structurc; lattice'-; crystallography-; theoretical-studies;; silicates-; energy-; crystal-field; thermodynamic-properti.es; coordination-; order-disorder; polymorphism-; static-lattice-energy; harmonic-lattice-dynamics; numerical-models; models-; andalusite-; nesosilicates-; orthosilicates-; sillimanite-; kyanite-; diopside-; clinopyroxene-; pyroxenes-group; chain-silicates; cordierite-; ring-silicates; geliienite-; melilite-group; sorosilicat.es;-;; leu.cit.e-; framework-silicates; orthozoisite-; grossular-; garnet-group; pyrope-

TI: Control of material transport and **reaction** mechanism by metai.sta.ble mineral assemblages; an example **involving kyanite, sillimanite, moscovite** and quartz..
AU: Foster-C-T Jr
OS: Canada. Spedal-PnbUc^cm-Geodieinical-Society. 2.. p. 121-132. YR: 1990
DE: geochemistry-; processes-; ion-exchange; metamorphic-rocks; mineral-assemblages; reactions-; kyanite-; nesosilicates-; oithosîlicates-; silicates-; sillimanite-; muscovite-; mica-group; sheet-silicates; quartz-; silica-minerals; framework-silicates; thermodynamic-properties; transport-; P-T-conditions; **crystal-growth;** phase-equilibria; Mgh-temperature; high-pressure; systems.-; equilibrium-; buffers-

TI: Exhumed lower crust: in NW Irelan.il, **and a** model for **trustai conductivity.**
AU: Sanders-I-S
SO: toumal-of-the-Geologieal-Society-of-London. **148 (Parti),** p. 131-135. YR: 1991
DE: Ireland-; petrology-; metamorpMsm-; retrograde-.metamorpMsm; models-; Western-Europe; Europe-; northwestern-Ireland; crust-; gneisses-; granulite-facies; **Ox-Mountains;** imbricate-tectonlcs; Highland-Boundary-Fault; Clew-Bay; tenanes-; decompression-; sillimanite-; nesosilicates-; orthosilicates-; silicates-; kyanite-; cooling-; continental-crust; shear-zones; hydrations ampMbolite-facies; saturations halite-; chlorides-; halides»; precipitation-; electrical-conductwity; tectonophysics-; cratonization-; Slishwood-; temperature-

TI: **Rock** pressures YS.. fluid **pressure as** a controlling influence on mineral **stability;** an example from. New Mexico.
AU: **Holdaway-M-J;** Goodge-J-W
SO: American-Mineralogist., 75. (9-10).. p.. 1043-1068.. YR: 1990
DE: New-Mexico; petrology-; metamorpMsm«; P-T-conditions; pressure-; metamo'rphic-ro^cks; .minerai-assemblages; phase-equilibria; metasedimentaiy-rocks; stability-; minerals-; silicates-; Taos-County-New-Mexico; Ortega-Group; Rinconada-Fonnation; Southwestem-U.S.; United-States; north-central-New-Mexico; Picuris-Range; fluid-pressure; quaitzites-; schists-; solid-phase; Proterozoic-; upper-Precambrian; Precambrians kyanite-; nesosilicates-; orthosilicates-; sillimanite-; andalusite-; chloritoid-; stauiolite-; geologic-barometry

TI: Calculated mineral equilibria in **the** pelite system,, KFMASH **(K2O-FeO-Mg0-A12O3-SiO2-H2O)-**
AU: Powell-Roger; Holland-Tim
SO: American-Mneralogist. 75.. (3-4),. p. 367-380. YR: 1990
DE : **phase-equilibria;** theoretical-studies; K2O-FeO-MgO-A12O3-SiO2-H2O; metamoiphic-rocks; mineral-assemblages; nietamo:rphism-; P-T-conditions; coexisting-minerals; minerals-; silicates-; aluminosilicates-; . KPMASH-; thermodynamic-properties; pelitic-texture; metasedimentary-rocks; staurolite-; nesosilicates-; orthosilicates-; chloritoid-; chlorite-; cfalorite-group; sheet-silicates; biotite-; mica-group; cordierite-; ring-silicates; garnet-group; andalusite-; sillimanite-; kyanite-; muscovite-; quartz-; silica-minerals;; framework-silicates

TI: Large amiaiusite crystals from Campbell County, Virginia; **their** alteration to kyanite ani sillimanite and their other associated minerals..

AU: Mftcheü-Richaid-S; Giannini-Williani-F; Penick-D-AllenJr
SO: Rocks-and-Minerals.. *63.,* (6).. p. 446-453.. YR: 1988
DE: Virginia-; mineralogy-; nesosilicates-; minerais-; andalusite-; Campbell-County-Virginia; Southeastem-U. S.; Eastern-U.S. ; United-States; orthosilicates-; silicates:-; kyanite-; sillimanite-; crystal-form; Altavista-; Lynch-Station; paramoiphs-; alteration-; popular-geology; collecting-; Piedrnont-

TI: A petrogenetk grid, for pelitic: **schists** in **the** system **SİO2 -A12 03 -FeO-MgO-K2** O-H2 **O.**
AU: Spear-Fiank-S; Cheney-J-T
SO: Contributions-to-Nfineralogy-aiid-Petrology. 101. (2). p.. 149-164. Yıl: 1989
DE: metamorphic-rocks; schists-; phase-equilibria; SİO2-A12-O3 -Fe0-Mg0-K2-O-H2-O; metapelite-; metasedimentaiy-rocks; silicon-; aluminum-; metals-; iron-; magnesium-; alkaline-earth-metals; potassium-; alkali-metals; oxygen-; gamet-group; nesosilicates-; oithosilicates-; silicates-; chlorite-; chlorite-group; sheet-silicates; biotite-; mica-group; cordierite-; ring-' silicates;; staurolite-; talc-; .kyanite-; andalusite-; sillimanite-; pjrophyllite-; quartz-; silica-minerals; framework-silicates; muscovite-; K-feldspar; alkali-feldspar; feldspar-group; thermodynamic-properties; geochemistry-; properties-

TI: Polyphase **metamorphism** and deformation in the eastern Blue Midge,, ME Georgia.
AU: McClellan-Elizabeth-A.
SO: Abstracts-with-Programs-Geological-Socie^-of-America. 21. (3). p. 49 YR: 1989
DE: Georgia-; petrology-; metamorphism-; Corn-Ridge-Formation; Coweeta-Group; Tallulah-Falls-Quartzite; Southeastern-U.S. ; Eastern-U.S. ; United-' States; northeastern-Georgia; polymetamorphism-; 61ue-Ridge-Mountains; tectonostratigrapMc-units; mineral-assemblages; overprinting-; folds-; rctrograde-metamorphism; metasomatism-; biotite-; mica-group; sheet-silicates; silicates-; gamet-group; nesosilicates-; orthosilicates-; chlorite-; chlorite-group; moscovite-; sillimanite-; kyanite-; Swallow-Cieek-Fault; Ctanky-Gal-Mountain-Fault; S'hope-Fork-Fault; tectonics-; faults-

TT: Aw early **Proterozoic P-T(t)** path from, a metapelite, Black Hills,, South Dakota.
AU: Teriy-M-P; Friberg-L-M
SO: Abstracts-with-Programs-Geological-Society-of-America. 21. (4), p.. 49 YR: 1989
DE: South-Dakota; petrology-; metamorphism-; Harney-Peak-Granite; Proterozoic-; upper-Precambrian; Precambrian-; P-T-conditions; metapelite-; metasedinientaiy-iOGks; metamoiphiorocks; Midwest-; 'United-States; Black-Hills; southwestern-South-Dakota; electron-probe-data; inclusions-; zoning-; gamet-group; nesosilicates-; . orthosilicates-; silicates-; mineral-assemblages; tectonics-; quartz-; silica-minerals; framework-silicates; stauro.lit.e-; chlorite-; chlorite-group; sheet-silicates; oligoclase-; plagioclase-; feldspar-group; biotite-; mica-group; muscovite-; kyanite-; sillimanite-; intrusions-

TI: The case for[1] .retrograde chlorite in. **stanrolite-garnet-two-mica** schist.
AU: Holdaway-M-J; Geving-R-L; Goodge-J-W; Dickerson-R-P; Dutrow-B-L
SO: Abstracts-with-Progranis-Geological-Society-of-America. 19,. (7). p.. **705** YR: 1987
DE: metamorphic-rocks; schists-; mineral-composition; retrograde-metamorphism; metamorphism-; staurolite-; nesosilicates-; orthosilicates-; silicates-; sheet-silicates,-mica-gj"oup; orthosilicates, -garnet-group; chlorite-; chlorite-group; sheet-silicates; sillimanite-; .kyanite-; P-T-conditions; Maine:-; New-England; Eastern-U.S..; United-States; Nevada-; Western-U.S. ; Hampton-Creek; Snake-Range; New-Mexico; Southwestern-U.S,; Picun's-Range

TI: **Toward a** solutioii of the stanrolite **enigma.**
AU: Dutrow-Barbara-L; Holdaway-M-J
SO: Absttacts-witàPrograms-Geological-Society-of-America. 19., (7). p. 649 YR: 1987
DE: minerals-; nesosilicates-; staurolite-; orthosilicates-; silicates-; mineral-assemblages; sillimanite-;, kyanite-; phase-equilibria; geologic-thermometry; geologic-barometiy; experimental-studies; thermodynainic-properties

TI: **Granulite** metamorphism, fl.ii.id. buffering» **and dehydration** melting **in the** Madras **charnockites and** metapelites.
AU: Bhattacbaiya-A; Sen-S-K
SO: Joumal-oWetrotogy,. 27.. (5). p. 119-1141. YR: 1986
DE: India-; petrology-; .metamoiphic-rocks; mineral-assemblages; interpretation-; metamorphism-; grade-; granolite-facies; *phase-equilibria; P-T-conditions; Madras-; Indian-Peninsula;. Asia-; faci.es-.; metacharnockite-; metapelite-; metasedimentaiy-rocks; high-pressure; geologic-thermometiy; geologic-barometiy; biotite-; mica-group; sheet-silicates; silicates-; phlogopite-; melting-;. dehydration-; thermodjmamic-propeities; kyanite-; nesosilicates-; orthosilicates-; sillimanite-

Tl: Metamorphic reactions in the kyanite and iSİIMmanîte zones **of** the **Harrovian** type **area«**
AU: McLellan-Eileen
SO: Journal-of-Petrology. 26. (4),. p. 789-818, YR: 1985
DE: Scotland-; petrology-; metamorphism-; regional-metamorphism; P-T-conditions; metamorpMc-rocks; metasedimentary-racks; mineral-assemblages; inclusions-; mineral-inclusions; staoiolite-; Harrovian-; Tay-Nappe; Dalradian-; Caledonian-Orogeny; Grampian-Highlands; Great-Britain; United-Kingdom; Western-Europe; Europe-; kyanite-; nesosilicates-; orthosilicates-; silicates--; sillimanite-; biotite»; 'mica-group; sheet-silicates; moscovite-; **garnet-group;** Ben-Lui-Schist; Pitlochry-ScMst; zoning-; **dehydration-;** ion-exchange; geologic-thermometiy; geologic-barometry

TI: Mineral **chemistry** and **metasomatic** growth of **ahunmous** enclaves in gedrite-cordierite-giieiss from **southwestern** New Hampshire, USA»
AU: Schumacher-John-C; Robinson-Peter
SO: Journal-of-Petrology. 28. (6). p. 1033-1073. YR: 1987
DE; New-Hampshire; petrology-; metamorphic-rocks; gneisses-; mineral-assemblages; phase-equilibria; interpretation-; P-T-conditions; metasomatism-; Cheshire-; Ammonoosuc-Volcanics; ChesMre-County; Keene-gneiss-dome; southwestern-New-Hanip.shire; New-England; **Eastem-U.S.;** United-States; Middle-Ordovician; Qrdovician-; Acadian-Phase;; corfierite-; ring-silicates; silicates-; sillimanite-; nesosilicates-; orthosilicates-; kyanite-; **œrandum-;** oxides-; staurolite-; sapphirine-; spinel-; gedrite-; orthoampMbole-; amphibole-group; chain-silicates; .Muscovite-; mica-group; sheet-silicates; textures-; pressure-

TI: Pressure, temperature ami evolution **of** fluid **compositions** of **A12 SiOS** -bearing **rocks,** Mica Creek, B.C., in. light of fluid inclusion data and **mineral** equilibria,
AU: Stout-M-Z; Crawford-M-L; Ghent-E-D
SO:. Ctontributions-to-Nfineralogy-and-Petrology. 92,. (2).. p. 236-247, YR: 1986
DE: British-Columbia; petrology-; metamorpfaic-rocks; metasedlimentaiy-rocks; fluid-incliisions; P-T-conditions; interpretation-; metapeiite-; sillimaoite-; nesosilicates-; orthosilie^ales-; silicates-; .kyanite-; andalmsite-; **quartz-;** ,silica-nunerals; ftamework-silicates; phase-equilibria; iq>lifts-; "Western-Canada; Canada-; tectonics-; structural-geology; Mica-Creek; mineral-composition

TI: A **contribution** to **the** geology **of the Bahariya** Oasis,, **Western Desert, Egypt;** Part. 2, **Mineralogy of** the **Upper** Cretaceous elastics,
.AU: **Ismail-M-M;** El-No.zahy~F-A; Sadeek-K-N
SO: GeoJounial. 19. (2).. p., 221-229. YR: 1989
DE: Egypt-; sedimentary-petrology; sedimentary-rocks; clastic-rocks; mineral-composition; North-Africa; Africa-; Western-Desert; **Bahariya-Oasis;** Cretaceous-; Upper-Cretaceous; zircon-;. nesosilicates-; orthosilicates-; silicates-; tourmaline-; ring-silicates; rutile-; oxides-; staurolite-; kyanite-; sandstone-; **siltstone-;** claystone-

TI: Mg- and **Cr-rich** staiirolite and **Cr-rich kyanite** im **high-pressure ultrabasic** rocks **(Cabo Ortegal, northwestern Spain)»**
AU: **Gil-Iborgiichi-Jose-I;** Mendia-MİTen; Girardeau-Jaoques
SO: American-Minefalogist 76. (3-4).. p. 501-511, YR: 1991
DE: Spain-; geochemistry-; trace-elements; minerals-; nesosilicates-; staurolite-; kyanite-; metamorphic-rocks; mineral-assemblages; phase-equilibria; crystal-chemistry; rare-earths; metamorphism-; temperature-; high-pressure; P-T-conditions; chromium-; Iberian-Peninsula; Southern-Europe; Europe-; northwestern-Spain; La-Comna-Province; Cabo-Ortegal; orthosilicates-; silicates-; magnesium-; alkaline-earth-metals; metals.-; substitution-; eclogite-; granulites-; major-elements; ultramafic-composition

TI: Eeck pressures vs* **fluid** pressure as a. **controlling** influence on mineral stability; an example from New Mexico.
AU: **Holdaway-M-J; Goodge-J-W**
SO: American-MneralO'gist 75. (9-10).. p.. 1043-1058., YR: 1990
DE; New-Mexico; petrology-; metamorphism-; P-T-conditions; pressure-; metamorphic-rocks; mineral-assemblages; phase-equilibria; metasedimentaiy-rocks; stability-; minerals-; silicates-; Taos-County-New-Mexico; Ortega-Group; Rinconada-Formation; Souünvestern-U.S.; United-States; north-central-New-Mexico; Picuris.-Range; fluid-pressure; quartzites-; schists-; solid-phase; Proterozoic-; upper-Precambrian; Precambrian-; kyanite-; nesosilicates-; orthosilicates-; sillimanite-; andalusite-; cMoritoiel-; staurolite-; geologic-barometry

Tl: MetamorpMsm ira. **Alabama;** a. review*
AU: **Moore-W*B;** SteltenpoM-M-G
SO[l]: Absliac^-with-PiDgrams-Geological-Society-of-America. 19.. (7), p.. 777 YR: 1987
DE: Alabama-; petrology-; metamorphism-; Southem-U.S.; United-States; Appalachians-; Noith-America; Piedmont-; **Talladega-Front;** Blme-Ridge-Province; Pine-Mountain-Window; Uchee-Belt; isograds-; grade-; chlorite-; chlorite-group; sheet-silicates; silicates-; sillimanite-; nesosilicates-; ortfaosiiieates-; staiurolite-; kyanite-; nüneral-assemblages; Brevard-Fault; Towaliga-Fault; Goat-Rock-Fault; Georgia-; Southeastem-U.S.; Eastem-U.S..; Allegheny-Orogeny; Acadian-Phase; South-Carolina; Silurian-; Devonian-; Carboniferous-

TI: À **petrogenetic** grid, for pelitle schists: **in the** system **SİO2 -A12 O3 -FeO-MgO-K2 O-H2** Ö,
AU: Spear-Fiank-S; Cheney-J-T
SO: Contributions-to-Nfineialogy-and-Petrology. 101. (2). p. 149-164,. YR; 1989
DE: metamorphic-rocks; schists-; phase-equilibria; SİO2-A12-O3 -FeO-MgO-K2-Q-H2-O; metapelite-; metasedimentaiy-rocks; .silicon-; aluminum-; metals-; iron-; magnesium-; alkaline-earth-metals; potassium-; alkali-metals; oxygen-; garnet-group; nesosilicates;-; orthosilicates-; silicates-; chlorite-; chlorite-group; sheet-silicates; biotite-; mica-group; cordierite-; ring-silicates; staurolite-; talc-; kyanite-; andalusite-; sillimanite-; pyiophyllite-; quartz-; silica-minerals; framework-silicates; muscovite-; K-feldspar; alkali-feldspar; feldspar-group; thermodynamic-propeities; geochemistry-; properties-

XI: **Tectonothennal** evolution of the SW North Carolina. Blue Midge in the **Noland Creek-Wayah amphibolite/granulite transition.**
AU: Eckert-James-Q Jr
SO[l]; Abstracts-wiUi-Progxams-Geologicai-Society-of-Ameriea, 21. (3). p. 13-14 YR: 1989
DE: North-Carolina; petrology-; metamorphism-; Sontheastern-U.S.; Eastem-U.S.; United-States; Btae-.Ridge-Province; Fianklin-North-Ckrolina; Macon-County-North-Carolina; southwestem-North-Carolina; Noland-Creek-Wyah-Transition; granulite-facies; ampMbolite-faci.es; P-T-conditions; burial-metamorphism; garnet-group; nesosilicates-; orthosilicates-; silicates-; zoning-; Jkyaniite-; grade-; staurolite-; hornblende-; cünoamphibole-; .ampMbole-groiq}; chain-silicates; Taconic-Qrogeny; pelitic-texture; geotheamal-giadient; tectonics.-; regional» metamorphism

Tt Am early **Proterozoic P-T(t)** path from a. **metapeMte,** Black Hills, South Dakota,
AU: Teny-M-P; Friberg-L-M
SO: Abstracts-with-Programs-Geological-Society-of-. America. 21. (4).. p.. 49 YR: 1989
DE: South-Dakota; petrology-; metamoipMsm«; Harney-Peak-Gianite; Proterozoic-;, mpper-Precambrian; Precambrian-; P-T-conditions; metapelite-; metasedimentaiy-rocks; metamoipMc-rocks; Midwest-; United-States; Black-Hills; soothwestem-South-Dakota; electron-probe-data; inclusions-; zoning-; garnet-group; nesosilicates-; orthosilicates-; silicates-; mineral-assemblages; tectonics-; quartz,-; silica-minerals; framework-silicates; staurolite-; chlorite-; chlorite-group; sheet-silicates; oligoclase-; plagioclase-; feldspar-group; biotite-; mica-group; muscovite-; .kyanite-; sillimanite-; intrusioms-

Tl: Variation in **metamorphic** temperature and. pressure within the Baltimore gneiss **terrane,** Maryland*
AU: Lang-Helen-M
SO: Abstracts-with-Programs-Geological-Sociely-of-America. 20. (1). p. 31 YR: 1988
DE: Maryland-; petrology-; .metamorphism-; Baltimore-Gneiss; terranes-; Eastem-U.S.. ; United-States; metamorpMc-rocks;; mineral-assemblages; P-T-conditions; staurolite-; .nesosilicates-; orthosilicates-; silicates-; kyanite-; sillimanite-;. zoning-; nappes-; geologic-thermometiy; geologic-barometry; metapelite-; metasedimentaiy-rocks

TT: Experimental studies on **metamorphism of** crustal rocks **under** mantle pressures.
AU: Schieyer-Werner
SO: Mineralogical-Magazine., 52 (Part 1). (364). p. 1-26. YR: 1988
DE: metarnorphic-rocks; metasedimentaiy-rocks; metapelite-; phase-equilibria; silicates-; MgO-A12-O3-SİÖ2-H2-O; metamorphism-; P-T-conditions; experimental-studies; mineral-assemblages; geologic-thermometiy; geologic-barometry; sudoite-; chlorite-group; sheet-silicates; cMoritoid-; nesosilicates-; orthosilicates-; yoderite-; staerolite-; purapellyite-; sorosilicates-; elleq^ergite^; talc-; phengite-; mica-groqp; kyanite-; pyrope-; gamet-group; carpholite-; chain-silicates; chlorite-; K-feldspar; alkali-feldspar; feldspar-group; framework-silicates; mantle-; crust-; partial-melting

TI: The case for **retrograde** chlorite: **in** stawrolite-**garnet-two-mica** schist,,
AU: Holdaway-M-J; Geving-R-L; Goodge-J-W; Dickerson-R-P; Dutrow-B-L

SO: AbstactSz-with-Programs-'Geological-S-ociety-of-America. 19. (7). p. 705 YR: 1987
DE: me&amoiphic-rocks; schists-; mineral-composMon; retrograde-metamoiphisin; metamorpMsm«; staurolite-; nesosilicates-; orthosilicates-; silicates-; sheet-silicates,-mica.-group; arthosiUcateSj-gamet-group; chlorite-; chlorite-group; sheet-silicates; sillimanite-; kyanite-; P-T-conditions; 'Maine-; New-England; Eastem-ü'..S..; United-States; Nevada-; Western-U. S. ; Hampton-Creek; Snake-Range; New-Mexico; Southwestern-U.S.; Picun's-Range

TI: Kyanfte-stauroHte-biotite-gariiet in peitic schists; extra components and implications for[1] buffering of fluid,
AU: Giaramita-M-J; Day-Howard-W
SO: Abstracts-with-Programs-Geological-Society-of-America. 19,. (7). p.. 675 YR: 1987
DE; metamorphic-rocks; schists-; mineral-assemblages; mineral-composition; kyanite-; nesosilicates-;; •orthosilicates-; silicates;-; staurolite-; biotite-; mica-group; sheet-silicates; orthosilicates, -garnet-group; isogjads-; amphitoolite-facies;. KFMASH-; data-processing; Fortran-; computer-programs; phase-equilibria; buffers-

TI: Alleghanian strain partitioning in the: Southern Appalachians, Virginia.
AU: Gates-A
SO: Abstracts-wifh-Programs-Geological-Society-of-America. 20.. (4). p.. 266 YR: 1988
DE: Virginia-; structural-geology; deformation-; Allegheny-Mountains; strain-; Appalachians-; North-America; Southeastern-U.S.; Easfcern-U.S.; United-States;; shear-; faults-; staurolite-; nesosilicates-; orthosilicates-; silicates-; kyanite-; greenschist-; schists-; Bowens-Creek; Carboniferous-; Permian-; Paleozoic-

TI: Conditions **in the metamorphic transition** from the **staurolite-kyanite** zone to **the** hornblende **granolite** faciès core near Franklin,, North **Carolina;** petrologic **evidence** for a **continuons Paleozoic progression.**
AU: Eckert-J; Mohr-D
SO: Abstracts-wiÜi-Programs-Geological-Society-of-America. 20. (4). p. 262 YR: 1988
DE: North-Carolina; petrology-; metamorphism-; metamorphic-processes; staurolite-; nesosilicates-; orthosilicates-; silicates:-; minerals;-; .kyanite-;, hornblende-; clinoamphibole-; amphibole-group; chain-silicates; granulites-; Franklin-; Southsastem-U. S,. ; Eastern-U. S. ; United-States; Paleozoic-; mineral-Composition; transition-zone; plate-tectonics; Hayesville-fanlt; faults-; P-T-oonditions

TI: Evidence from, garnet **zoning** for[1] **over-thrusting** in **the** eastern Maryland **Piedmont**
AU: Lang-Helen-M
SO: Abstracts-with-Pïogxams-Geological-Society-of-America, 19. (1).. p.. 24 YR: 1987
DE: Maryland-; petrology-; metamorphic-rocks; Baltimore-Gneiss; Eastern-U. S.; United-States; eastern-Maryland; Piedmont-; Phoenix-Nappe; thrust-faults; faults-; mineral-assemblages; garnet-group; nesosilicates-; orthosilicates-; silicates-; Hunt-Valley--Mall; biotite-; mica-group; sàeet-silicates; staurolite-; kyanite-; sillimanite-

TI: Pressure,, temperature, and. structural, evolution of **the Orfordville** Belt,, west-central Hew **Hampshire.**
AU: Spear-Frank-S; Rumble-Douglas III
SO: Journal-of-Petrology. 27,. (5). p. 1071-1093. YR: 1986
DE: New-Hampshire; petrology-; metamorphism-; P-T-conditions; interpretation-; metamorphic-rocks; ampMbolites-; mineral-assemblages; phase-equilibria; inclusions-; minerai-inclusions; garnet-group; paragenesis-; Littleton-Formation; Partridge-Formation; Bethlehem-Gneiss; Ammonoosuc-Volcanics; Alber-Formation; Oliveiian-Gneiss; Orfordville-Belt; west-central-New-Hampshire; New-England; Eastern-U. S. ; United-States; nesosilicates-; orthosilicates-; silicates-; .kyanite-; staurolite-; cooling-; •deformation-; geologic-themometry; geologic-barometry; Mount-Cube-Quadrangle; .. Hanover-Quadrangle; Paleozoic-; plagioclase-; feldspar-group; framework-silicates; zoning-; foliation-

TI: Regression modelling of **metamorphic reactions** in metapelite», Snow Peak.,, northern Idaho»
AU: Lang-Helen-M; Rice-Jack-M
SO: Jounial-of-Petrology. 26. (4).. p. 857-887.. YR: 1985
DE: Idaho-; petrology-; metamorphism-; regional-metamorphism; P-T-conditions; metamorphic-rocks; metasedimentary-rocks; metapelite-; Qeaiwater-; Shoshone-; Belt-Supefgroup; Prichard-Formation; Wallace-Formation; Snow-Peak; northern-Idaho; Idaho-Batholith; Clearwater-County; Shoshone-Counly; Western-U.S. ; United-States:; mineral-assemblages;, chlorite-group; sheet-silicates; silicates-; biotite-; mica-group; garnet-group; nesosilicates-; orthosilicates-; kyanite-; staurolite-; zoning-; prograde-metamoiphism;

ilmenite-; oxides-; statistical-analysis; models-; dehydration-; Bathtob-Monntain

TI: Metamorp.bic reactions in the .kyanite and sillimanite zones of the Harrovian type area.
AU: McLellan-Eileen
SO: Joiimal-of-Petrology., 26,. (4). p.. 789-81,8, YR: 1985
BE: Scotland-; petrology-; metamorphism-; regional-metamojphism; P-T-conditions; imetamorpMc-rocks; metasedimentary-rocks; mineral-assemblages; inclusions-; mineral-inclusions; staurolite-; Barrovian-; Tay-Nappe; Dalradian-; Caledonian-Orogeny; Grampian-Highlands; Great-Britain; United-Kingdom; Western-Europe; Europe-; .kyanite-; nesosilicates-; orthosilicates-; silicates-; sillimanite-; Motite-; mica-group; sheet-silicates; muscovite»; gamet-gromp; Ben-Lui-Schist; Piüochry-Schist; zoning-; dehydration-; ion-exchange; geologic-thermometry; geologic» barometiy

TI: Mineral chemistry and metasomatic growth of aluminous enclaves in gedrite-cordierite-gueiss from southwestern New Hampshire,, USA.
AU: Schumacher-Jokfi-C; Robinson-Peter
SO: Joumal-of-Petrotogy., 28.. (6). p. 1033-1073.. YR: 1987
DE: New-Hampshire; petrology-; metamorphic-rocks; gneisses:-; mineral-assemblages; phase-equilibria; interprétation-; P-T-conditions; metasomatism-; Cheshire-; Ammonoosac-Volcanics; Cheshire-County; Keene-gneiss-dome; soutliwestern-New-Hampsbire; New-England; Eastem-U.S.; United-States; Middle» Ordovidan; Ordovician-; Acadian-Phase; cordierite-; ring-silicates; silicates-; sillimanite-; nesosilicales-; orthosilicates-; kyanite«; corundum-; oxides-; staurolite-; sappMrine-; spinel-; gedrite-; oithoamphihole-; amphibole-group; chain-silicates; muscovite-; mica-group; sheet-silicates; textures-; pressare-

TI: Petrology of a Georgia Blue Ridge ampliibolite limit: with hornblende + gedrite + kyanite + staurolite.
AU; Helms-Thomas-S; McSween-Hany-Y Jr; Làbotka-Theodore-C; Jarosewich-Eugene
SO: American-Mineralogist. 72., (11-12). p.. 1086-10%. YR: 1:987
DE: phase-equiliMa; ampMbolites-; P-T-conditions; metamorphism-; amphibolite-fecies; metamorpMc:-rocks; fades-; Georgia-; petrology-; Rabiin-; Laurel-Creek-Complex; Southeastern-U. S. ; Eastem-U.S. ; United-States; northeastern-Georgia; Blue-Ridge-Moiuitains; RabEn-Coiinty; Şouthem-Appalacbians; Appalachians-; stability-; electron-probe-data; grade-; mineral-assemblages

TI: Heat capacities and entropies, of sfllimanite, fibrolite, andahisite, kyanite,, and quartz ani the A12SİO5 phase diagram,
AU: Hemingway-Brace-S; Robie-Richard-A; Evans-Howaid-T Jr; Kerrick-Denill-M
SO^: American-Mineralogist. 76. (9-10). p., 1597-1613, YR: 1991
D.E.: geochemistry-; properties-; thennodynamic-pioperties; phase-equilibria; aluminosilicates-; ejqperimental-stedies; minerals-; nesosilicates-; sillimanite-; andahisite»; kyaeite:-; framework-silicates; silica-mirierals; quartz-; crystal-growth; entropy-; heat-capadly; equations-; low-temperatore; mineral-data; silicates.-; orthosilicates-; polymorphism-; Montana-; Westem-U. S. ; United-States; framework-silicates,-silica-minerals:; .natural-materials; cıyşta1-structure

'TI: Static lattice energy minimization, and lattice dynamics calculations on ahuninosilicaote mimerais..
AU: Winkler-Bjorn; Dove-Martin-T; Leslie-Maurice
SO: American-Mineralogist. 76. (3-4). p.. 313-331.YR: 1991
DE: minerals-; aluminosilicates-; crystal-structure; lattice-; crystallography-; theoretical-studies; silicates-: energy-; crystal-field; themodynaimc-properties; coordination-; order-disorder; polymorphism-; static-lattice-energy; hannomc-lattice-dynamics; numerical-models; models-; andalusite-; nesosilicates-; orthosilicates-; sillimanite-; kyaoite;-; diopside-; clinopyroxene-; pyroxene-group; chain-silicates; cordierite-; ring-silicates; gehlenite-; melilite-group; soiosilicates-; leudte-; framework-silicates; orthozoisite-; grossular-; g-amet-group; pyrope-

TI: Exhumed. lower cmst in ÎNIW Ireland., and. a model for crustal conductivity.
AU: Sanders-I-S
SO: Jounial-of-the-Geological-Socieiy-of-London. 148 (Parti), p.. 131-135. YR: 1991
DE; Ireland-; petrology-; metamorphism-; retrograde» metamorphism; models-; Western-Europe; Europe-;, northwestern-Ireland; crust-; gneisses-; granulite-facies; Ox-Mountains; imbricate-tectonics; Highland-Boundary-Fault; Clew-Bay; terranes-; decompression-; sillimanite-; nesosilicates-; orthosilicates-; silicates-; kyanite-; cooling-; ' continental-crust; shear-zones; hydration-; ampMbolite-facies; satuiation-; halite-; chlorides-; halides-; precipitation-; electrical-conductiv%; tectonophysics-; cratonization-; Slishwood-; temperataie-

TI: Rock **pressures** vs, **fluid** pressure **as a controlling influence on** mineral, stability; **an example** from New Mexico,.
AU: HoWaway-M-J; Goodge-J-W ,,
SO: American-MinexalogisL 75.. (9-10). p. 1043-1058.. YR: 1990
DE: New-Mexico; petrology-; metamorphism-; P-T-œnditions; pressure-; metamorpMc-roeks; mineral-assemblages; phase-equilibria; metasedimentary-rocks; stability-; minerals-; silicates-; Taos-County-New-Mexico; Ortega-Group; Ri.nconada-Formati.on; Southwesfern-U.S.; United-States; north-central-New-Mexico; Picuris-Range; fluid-pressure; quartzites-; schists-; solid-phase; Proterozoic-; upper-Frecambrian; Precambrian-; kyanite-; nesosilicates-; orfhosilicates-; sillimanite-; andalusite-; chloritoid-; staurolite-; geologic-barametry

TI: **Alumino-silicate** minerals; refractories: steel the **show«**
AU: McMichael-Bruce
SO: Industrial-Minerals. 277. p.. 27, 29-30, 32, 35, 37-38, 41, 43 YR: 1990
DE ; ceramic-materials; production-; refractor-materials; aluminosilicates-; silicates-; andalusite-; nesosilicates-; ortbosilicates-; South-Africa; Southern-Africa; Africa-; France-; Western-Europe; Europe-; kyanite-; mullite-; markets-; sillimanite-; synthetic-materials; India-; Indian-Peninsula; Asia-; China-; Far-East; Virginia-; Southeastem-U. S. ; Eastem-U, S..; United-States; Australia-; Australasia-; Brazil-:; South-America.; Sweden-; Scandinavia-

TI: Metabasites; an **indicator of** late **Archean geologic** history in. the **Tobacco Root** Mountains, Madison County,, **Montana«**
AU: Hess-David-F; Vîtaliano-Charies-J
SO[1]: Abstracts-with-Programs-Geological-Society-of-America. 22. (5).. p.. 13 YR: 1990
DE: Montana-; petrology-; metamoiphic-rocks; metaigneoBs-rocks; metabasite-; Madison-County-Montana; Tobacco-Root-Mountains; Western-U.S. ; United-States.; Archean-; Precambrian-; environmental-analysis; nappes-; ultramafi.es-; arcuate-faults; faults-; clinopyroxene-; pyroxene-group; chain-silicates; silicates-; kyanite-; nesosilicates-; orthosilicates-; sillimanite:-; garnet-group;; hornblende-; clinoamphibole-; amphibole-group; plagioclase-; feldspar-group; framework-silicates; quartz-; siliea-minerals; P-T-conditions; aluminosilicates-; mafic-composition; southwestern-Montana

TI: **Calculated** mineral **equilibria in** the **pelite** system, KfMASH **(K2O-FeO-MgO-A12O3-SiO2-H2O).**
AU: Powell-Roger; Holland-Tim.
SO: American-Mineralogist 75. (3-4). p.. 367-380. YR: 1990
BE: phase-equilibria; theoretical-studies; K2O-FeO-MgO-A12O3-SiO2-H2O; metamorpMc-racks; mineral-assemblages; metamorphism-; P-T-conditions; coexisting-minerals; minerals-; silicates-; aluminosilicates-; KFMASH-; thennodynamic-properties; pelitic-texfure; metasedimentary-rocks; .staurolite-; nesosilicates-; orthosilicates-; chloritoid-; chlorite-; chlorite-group; sheet-silicates; biotite-; mica-group; cordierite-; ring-silicates; garnet-group; andalusite-; sillim.anit.e-; .kyanite-; muscovite-; quartz-; silica-minerals; framework-silicates

TI: Large andalusite crystals from Campbell County,, **Virginia;** their alteration to kyanite and sillimanite **and** their- ether **associated** minerals..
AU: Mitchell-Richard-S; Giannini-William-F; Penick-D-Allen Jr
SO: Rocks-and-Minerals. 63. (6). p. 446-453.YR: 1988
DE; Virginia-; mineralogy-; nesosilicates-; minerals-; andalusite-; Campbell-Coraity-Virginia; Southeastern-U. S. ; Eastern-U. S. ; United-States; orthosilicates-; silicates-; .kyanite-; sillimanite-; crystal-form; Altavista-; Lynch-Station; param.orp.hs-; alteration-; popular-geology; collecting-; Piedmant-

TÏ: A. **petrogenetic grid** for pelific **schists** in. **the** system **SİO2 -Al2 O3 -FeO-MgO-K2 O-H2 O.**
AU: Spear-Frank-S; Cheney-J-T
SO: Contribuücms-to-Mineralogy-and-Petrology. 101. (2). p., 149-164.. YR: 1989
DE: metamorphic-rocks; schists-; phase-equilibria; SiO2-A12-O3-FeO-MgO-K2-O-H2-O; metapelite-; metasedimentaiy-roeks; silicon-; aluminum-:; metals-; iron-; magnesium-; alkaline-earth-metals; potassium-; alkali-metals; oxygen-; garnet-group; nesosilicates-; orthosilicates-; silicates.-; chlorite-; chlorite-group; sheet-silicates; biotite-; mica-group; cordierite-; ring-silicates; staurolite-; talc-; kyanite-; andalusite-; sillimanite-; pyrophyllite-; quartz-; silica-minerals; framework-silicates; muscovite-; K-feldspar; alkali-feldspar; feldspar-group; thermodynamic-properties; geochemistry-; properties-

TI: Polyphase **metamorphism** and deformation **in** the **eastern** Blue Ridge, NE Georgia,

AU: McOellan-EIizafoeth-A
SO: Abstacts-witià-Programs-Geological-S'Ociety-of-America, 21. (3). p. 49
YR: 1989
DE; Georgia-; petrology-; metamorphism-; Corn-Mdge-Fomation; Goweeta-Gronp; Tallulafa-Falls-Quaiîzite; Soufheastem-U. S.. ; Eastern-U.S. ; United-States; northeastern-Georgia; polymetamoıphism-; Blue-Ridge-Mountains; tectonostatigrapMc-uMts; mi.ner.al-assembla.ges; overprinting-; folds-; retrograde-nıetamoıpMsnı; metasomatism-; biotite-; mica-group; sheet-silicates; silicates-; garnet-group; nesosilicates-; orthosilicates-; chlorite-; chlorite-group; muscovite-; sillimanite-; kyanite-; Swallow-Creek-Fault; Chiinky-Gai-Mountain-Fault; Shope-Fork-Fault; tectonics:-; faults-

T1: UV to MIR. spectra, **of silicate** minerals **obtained by microscope spectrometry** and their **use m** mineral thermodynamics **and** kinetics»
All: Langer-K
SO: Mattiematical-and-Physical-Sciences., .225. p. 639-685.. YR: 1.987
DE: geophysics-; experimental-studies; kinetics-; spectra^silicatessthermodymamic-properties;; crystals-; equations-;; entropy-; garnet-group; nesosilicates-; orthosilicat.es:-; enthalpy-; kyanite-; sillimanite-; andalusite-

TT: The case: **for retrograde** chlorite **in stauroHte-**gamet-two-mica schist.
.AU: Holdaway-M-J; Geving-R-L; Goodge-J-W; Dickerson-R-P; **Dutrow-B-L**
SO: Abstracts-with-Programs-Geolo.gical-Socie^ty-of-America. 19.. (7). p. 705 YR: 1987
DE: metamorphic-rocks; schists-; mineral-composition; retrograde-metamorphism; metamorpMsm.-; staurolite-; nesosilicates:-; orthosiiicates-; silicates-; sheet-silicates, -mica-group; ort-hosilicates^-gamet-group; chlorite-; chlorite-gioup; sheet-silicates; sillimanite-; .kyanite-; P-T-oonditions; Maine-; New-England;, Eastern-U. S.. ; United-States; Nevada-; Westem-U. S.. ; Hampton-Creek; Snake-Range; New-Mexico; Southwestern-ILS.; Picun's-Range

TI: Pressure-temperature and. evolution of fluid compositions of A12 SİO5 -bearing rocks». Mica Creek» British Columbia, in light of fluid inclusion data and mineral equilibria.
AU: Stout-M-Z; Crawford-M-L; Ghent-E-D
SO: Mathematical-and-Physical-Sciences. 218. p. 758 YR: 1.987
BE: British-Columbia; petrology-; fluid-inclusions; P-T-conditions; schists-; Western-Canada; Canada-; evolution-; Mica-Creek; pelitic-texture; sillimanite-; nesosilicates-; orthosilicates-; silicates-; kyanite-; fîbrolite-; andaàisite-; quartz-; silica-minerals; :framework-silicates; mineral-composition; density-; composition-; gases-; caxbon-dioxide; " methane-;, hydrocarbons-; organic-materials

T1: Mineral chemistry and. **metasomatic** growth of **alnmmoos** enclaves in **g^drite-cordierite-gneiss** from. **southwestern** New Hampshire,, USA.
AU: Schumacher-John-C; Robinson-Peter
SO: Journal-of-Petrology. 28.. (6). p, 1033-1073. YR: 1987
DE; New-Hampshire; petrology-; metamorphic-rocks; gneisses-; mineral-assemblages; phase-equilibria; interpretation-; P-T-conditions; metasomatism-; Cheshire-; Ammonoosuc-Volcanics; Cheshire-County; Keene-gneiss-dome; southwestern-New-Hampshire; New-England.; Eastern-U.. S. ; United-States; Middle-Ordovi.ci.an; Ordovician-; Acadian-Phase; eordierite-; ring-silicates; silicates-; sillimanite-; nesosilicates-; orthpsdlicates-; kyanite-; corundum-;; oxides-; staurolite-; sapphirine-; spinel-; gedrite-; orthoamphibole-; amphibole-gronp; chain-silicates; muscovite-; mica-gronp; sheet-silicates; textures-; pressure-

TI: Kyanite: in **the** mainland **Lewisian** complex*
AU: Barnicoat-A-C; Cartwright-I; O'-Hara-M-J
SO: Scottish-Journal-of-Geology. 23 (Part 2). p.. **209-**213,. YR: 1987
DE: Scotland-; petrology-; metamorphism-; P-T-conditions; kyanite-; minerals-; nesosilicates-; Great-Britain; United-Kingdom; Western-Europe; Europe-; Lewisian-; Precambrian-; orthosilicates-; silicates-; Badcallian-; northwestern-Scotland; sillimanite-; AcMltifouie-;. Drumbeg-; Soourie-; Saint-Stoer; Badcall-

TI: **Aragnaia-Tocantins** fold, **belt»** Brazil; a **BrasiGano-Panafrican** cycle **(600Ma)** reactivated **geosuture.**
AU: Hasui-Y; Heiz-N; Matta-M-A
SO: Abstracts-with-Prograins-Geological-Society-of-America. 18. (6). p. 630-631 YR: 1986
DE: Brazil-; petrology-;. metamorpMsm-;; Araquaia-Tocantins-Fold-bek; fold-belts; South-America; suture-zones; Paleozoic-;;'" Parnaiba-Basin; Brazilian-Cycle; grade-; cratons-; " Amazönian-Craton; Jequie-Cycle; Transamazonian-Cycle; granites-; Goias-; Baixo-Araquaia-Supergroup; amphibolites-; schists-; phyllites-; metalimestone-; metasedimentaiy-rocks; Colmeia-Complex.; .kyanite-; nesosilicates-; oithosilicates-; silicates-; sillimanite-

Özler / Abstracts

J.D.A. Piper,. Joanna **M. Moore, O.** Tatar,, BL **Gnrsoy** and IL G. Park, **1996,** ***Pakomagmatic*** *study of crustal deformation- across an intracontinental transform: the North* ***Anatoüan*** *Faut Zone in North Turkey:* **GeoL** SocL Special **PtobL, 105,299-310.**

Abstract; Eocene volcanic rocks spanning the North. Anatolian Fault Zone in north central Turkey have a common reversed polarity and appear to record a short term -volcanic episode useful for identifying subsequent tectonic rotations., Aithouh regional differences are present, no distrubuted clockwise rotation caused by dexrtal motion across the fault zone since: mid-Miocene times are found.. Instead variable anticlockwise block rotartion demonstrated that this fault system does not obey theoretical models for crustal behaviour across continental transforms,. Deformation is found to be highly inhomogeneous with, a narrow zone of intense clockwise rotation recognised within blocks bounded by strike-sip fault above, and parallel to, the foundamental lineament. Further from the lineament no systematic rotations with respect to the major bounding plates are detected. A zone of c, 30° anticlokewise rotation in the east may be either a consequence of emplacement of the Pontides or- an ongoing' consequence of continental collesion. Slightly larger rotation south of the fault probably record block rotation south, into Anatolian as this region is being extruded westwards by continuing impingement of .Afro-Arabia, into the Eurasian Plate,.

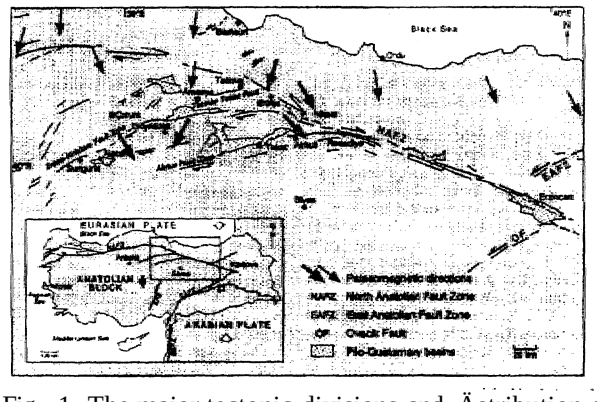
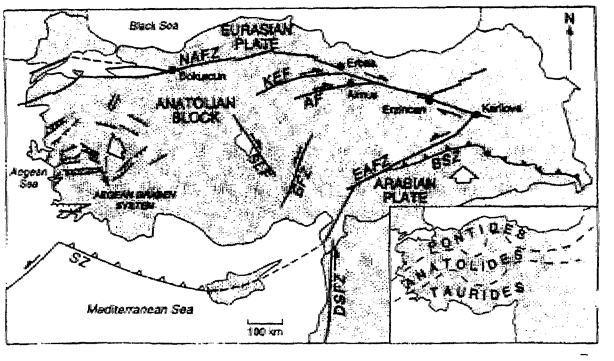


Fig., 1, The major tectonic divisions and. Ästribution of major lineaments in. Anatolia, -and adjacent regions.. The large open arrows show relative motions of the plates and the smaller half arrows are directions of movement on major strike-slip faults,



Fig,, .2. Distribution of paleomagnetic sampling sites of this study in the central part of the North. Anatolian. Fault Zone; the distribution of major faults in this region is also shown.. The locations of previous paleomagnetic studies shown by the stars are referred to in the text.. The inset shows the regional location within the tectonic framework, of the Eastern. Mediterrenean.

Bora, **Rojay,** 1995, *Port-Itiassic Evolution Of Central Pontides: Evidence from Amasya Region, Northern Anatolia:* Geologica **Romana,** 31,329-350.

Abstract, The central Pontides is an orogenic belt evolved since Triassic by the progressive closure of Paleo- and. Neo-Tethys ocean, which is bounded, by the Izmir-AnkMa-Erzincan Suture (Northern Neötethyan Suture) from, the south.

The post-Triassic Neo-Tethyan evolution in Amasya region, started with. Liassic transgression on the rifted •pre-Liassic basement rocks. Later, the initial, rifting failed and the platform was uplifted. The Uplifted platform turned into an open-marine depositional realm, as recorded by the deposition of Callovian Ammonitico Rosso faciès. The open-marine to deep sea, deposition period was followed by a regressive platform carbonate deposition during Cenomanian deep-sea pelagi.es; and. turbidites. The passive margine was already destructed and turned into an active continental margine as a, result of northward subduction of northern branch of the Neo-Tethyan oceanic crust during post-Cenomanian - pre-Gampanian interval. Thermal doming beneath the future magmatic arc to the north and tectonic transportion of mobile accretionary prism towards south, resulted in the development of constructive forearc basin during mid .Campaman-Maestrichtian. Ongoing emergence in the Amasya region and the cumulative amalgamation, of the accretionaiy prism, were followed by a newly arising extensional regime during Lutetian. The retrochariage of accreted melange onto Lutetian peripheral passive rift basin units from

south to north, was followed by the dacitic intrusion which, were probably the result of thickening of continental crust in the region. The entire region emerged under the control of a N-S directed compressional contractional regime until the initiation of compressional-extansional tectonic regime (North Anatolian Fault System).,

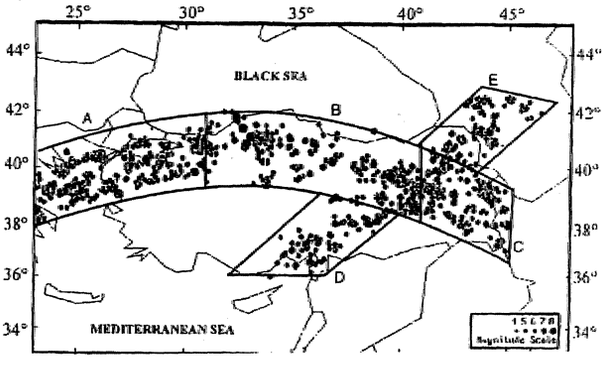


Fig.. 2. Simplified tectonostratigrapbic columnar section of the Amasya Region. NAOM. North Anatolian Ophiolifhic Melange, DC. Devecidag ' Complex (Modified from Rajoy, 1993),..

Ali **Osman** Öncel, Ian Main, Ömer Alptekin, **Patience Cowie,** 1996',, *Spatial variations of the **fractal** properties qf seismkfy in the Anatolian fault zones:* **Tectonophysics,** 257,**189-202.**

Abstract: The Anatolian, fault zones are seismically active strice*slipe fault zones transcending the Anatolian plate in E-W and N-S directions.. We investigate the spatial variations of seismicity along these zones in an attempt " to investigate fault complexity along strice, quantified by the Gutenberg» Richter b-vahie and the fractal (correlation) dimension of earthquake epicentres, using the .maximum likelihood method and -the correlation integral, respectively. The investigation covers instramentally recorded earthquakes of magnitude: M>4,5 occurring' between 1900 and 1992.. We find systematic spatial, variations which may be related to structural, or mechanical variability along strike., In. particular' the large change in strike at the northern, apex of the North Anatolian Fault Zone is associated with the .highest correlation dimension and lowest b-value for seismcity this century,. The correlation dimension, and b-value show a negative correlation with respect, to each other, similar to results reported in other regional studies of japon and southern California. This statistical correlation is: stronger when, more objective seismic zoning is carried out (based on number of events) rather than more subjective seismotectonie zoning in. common use in seismic hazard, analysis.

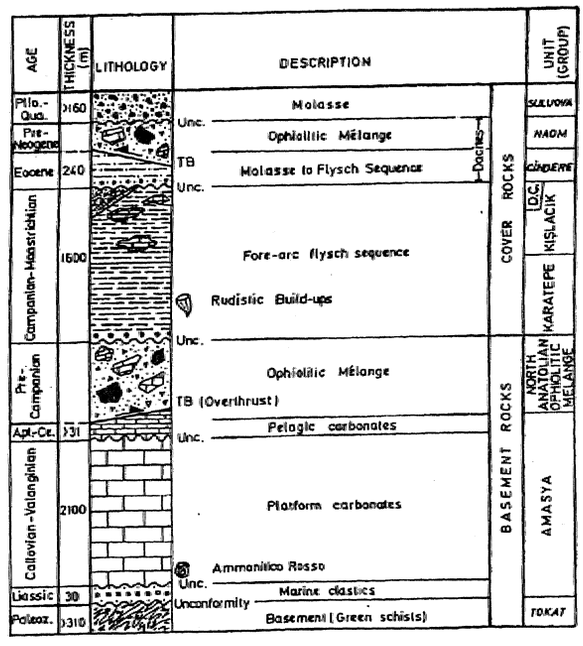


Fig. 2. Map showing the epicentre distribution of earthquakes which occured between 1900 and 1992 in Turkey. The data are split into five sismotectonic zones, labelled A-E. Justtification for this structral zonning are given in the main text, section 3.

Sempozyum, Seminer, Konferans

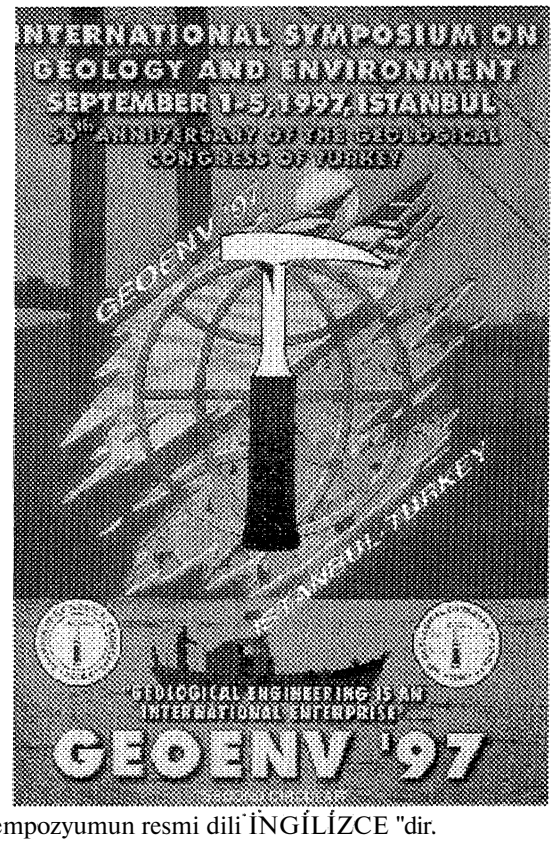
GEOENV '97 ULUSLARARASI JEOLOJt VE ÇEVRE. SEMPOZYUMU 1-5 EYIÜL 1.997, İSTANBUL

Türkiye Mühendistik ve Mimarlık Odaları Birliği Jeoloji Mühendisliği Odası, 50,. Jeoloji Kongresi 'ni 1.-5 Eylül 1997 tarihleri .arasında İstanbul 'da 'Uluslararası Jeoloji ve Çevre Sempozyumu kapsamında yapacaktır. Sempozyum Cumhurbaşkanı Sayın Süleyman Demirel tarafından başlatılacaktır.

.İkinci Duyuru sempozyum programı, sosyal aktiviteler, teknik geziler ve sempozyum soması kısa seyahatleri kapsayan bilgileri içermektedir.

Sempozyum etkinlikleri ile ilgili detay bilgiler Sempozyum Sekreterleri İ.Yılmazer ve C. Saıaç'tan temin edilebilir.

İ. Yılmazer ve GSaraç Sempozyum Sekreterleri
Bayındır Sok. 7/1 Yenişehir 06410, Ankara
Tel : 435 07 17 Fax : 434 23 88
e-mail: tmmobj-o@semis2.net.tr



Sempozyumun resmi dili İNGİLİZCE "dir.
Sempozyum bildiri ve poster sunumu şeklinde organize edilecektir. Sempozyuma katılmak isteyenler anabaşlıklar altında verilen adreslere bildiri özlerini ve özgeçmişlerini gönderebilirler. Kabul edilen bildiriler tim metin halinde özel beş. ayrı sette yayınlanacak ve Science Citation Index 'de bildiri, özleri .olarak yer alacaktır,.
Sempozyumda ele alınacak anabaşlıklar ve içerikleri aşağıda verilmektedir.,

İ,, ÇEVRESEL JEOLOJİ, **JEOFİZİK VE JEOKİMYA**

1.1. Çevresel Jeoloji
R.L. **Brenner**
Department of Geology, The University of Lowa,, Lowa City, Lowa, 52242, USA
Tel : 1-319-355-1818 **Fax** : 1-319-355-1821

insanoğfaıraıı varlığı doğal, kaymaklara bağlıdır.' Deprem, sel, firtına,. volkanik etkiler ve yerkaymalan gibi jeolojik süreçler doğal felaketlerdir. Felakete yol açan. jeolojik süreçlerinin etki.leri.nin hafifletilmesi ve doğal, kaynaklanıl araştırılması, üretimi, taşınması ve doğal kaynaklann tüketimi konularında görüşlere yer verilecektir.,

1.2. Çevresel Jeofizik
M.Meju
Department of Geology, University of Leicester, Leicester LEI 7RH, UK, ""
Tel : 44-116-252-3628 **'Fax.** : 44-116-252-3918
Yüzey, kuyu ve jeofizik tekniklerinin uygulamaları ile çevresel problemler üzerinde yoğunlaşmıştır. Doğal kirlikler' ve atık depolama alanlarının araştırılması ve yeraltı suyu kaynakları ve akiferlerin tesbiti, yeraltı suyunun haritalanması gibi alt konu başlıklarım içermektedir..

1.3. Çevresel **Jeokimya**
A.KÜ1HÇ
Department, of Geology, University of Cincinnati, Cincinnati, Ohio, 45221-0013, USA "
Tel: 1-513-556-3732 **Fax:** 1-513-556-6931
Çevresel, jeokimya geniş bir yelpaze içinde kimyasal, süreçlerin, etkilendiği çevre ile ilgilenmektedir.. Jeokimyasal modelleme, izotop jeokimyası, jeomikrbbiyolcrji, volkanik gazın çevre etkisinin, jeokimyasal, ve organik jeokimya ve paleoçevre konuları yeıalınaktadır. Bununla, birlikte, iki yeni başlık ise, "21. yüzyılda çevresel jeokimya eğitimi" ve "Çevresel, düzenlemesinde jeokimyasal boyutlar[11] konularındaki görüşler çevresel jeokimya bölümüne ilave edilmiştir.,

1,4 **Su-Kayaç** Etkileşimi
U.Itogaıı
Department of Geological Engineering, Ankara University, 06100, Ankara, TURKEY or Department of Geology,, The University of Lowa, Lowa. City, Lowa,, 52242, USA " •
Tel: 90-312-235-2979 **lax:** 90-312-235-2979 1-319-335-1821
Su-kayaç eüdieşimi oldukça düşük sıcaklıklardaki sularda, sıvı - ve mineral etkileşimi şeklindedir. Jeologlar, organik ve inorganik jeokimyacılar,, kimyacılar, hidrojeologlar, toprak, bilimciler, kil mineralojistleri, elektron, mikroskop çalışanlar[1] ve: diğer[1] bilim dallarıyla ilgilenenler karmaşık ve birçok bileşenli reaksiyonlarda kitle . transferi, reaksiyon kinetiği, katı çözelti arayüzey kimyası, Mdrotermal akış reaksiyonu, diyajenetik reaksiyonlar ve su-kayaç veya

sıvı mineral etkileşimi konularında görüşler belirtecektir.

1..5. **Uzaktan** Algılama ve Çevre

A.. **SesSren**
İstanbul Mühendislik Ltd. 2. Arşe. .Apt, 7/35, Akatlar 80630, İstanbul, TURKEY.
Tel: **90-212-275-5549** Fax: **90-212-257-1369**

Uç ana konu başlığı sunulacaktır.

1. Haritalama
   - deniz kıyısı, sahil, göl, akarsu, gölet alanları,
   - orman, otlak, çalılık gibi yeşil bitki, örtüsü,
   - ekilebilir- alanlar, dağlık bölgeler, bataklıklar,
   - endüstriyel bölgeler' ve
   - diğerleri
2. Çevresel sorunların belirlenmesi,
   - deniz, göl, akarsu, hava. kirliliği
   - erozyon, sel,, toprak kaymaları gibi doğal afetler,
   - kanuna aykırı inşaatların belirlenmesi,
3. Çevresel zenginliklerin devamlı kontrolü

çevresel zenginliklerin devamlı kontrol. 'gerekmeden, korunamaması,

- Yer yüzü doğası ve insanlar tarafından **oluşturulan** yapılar hakkında bilgi **sağlamak** amacı ile sürekli kontrollerin uzaktan algılama yöntemi ile elde edilmesi.

2. ÇEVRESEL **BİLİM** VE TEKNOLOJİ

2.1. **Mühendislik** Jeolojisi ve Çevre

E, Yüzer
Department of Geological. Engineering, Mining Faculty, İstanbul Tecnical University Ayazağa, İstanbul, 80626, TURKEY
Tel: 90-212-285-6146 **Fax:** 90-212-285-6146

"Çevre Mühendisliği[11] terimi 1970 Ti yılların başında ortaya çıkmış ve: mühendislik eğitim programında son yıllarda yeralmıştır. "Mühendislik ve Çevre" yerkabuğundan, tıp bilmine kadar birçok alanla, ilişkilidir. Mühendislik planlan, kavranılan,, dizaynı ve uygulamalı konularda çalışanlar bu alt başlıkta, değerlendirilecektir.. Konular şu başlıklarda yoğunlaşmaktadır.

- Çeşitli metod ve uygulamalar,
- Mühendislik ve çevre konularında, öneriler,
- Mühendislik ve çevre uygulamalarında ilerlemenin sağlanması,
- Bilini adamları, teknikerler ve endüstride çalışanlar arasında ilişkilerin sağlanması.

2.2.. **Kent** Jeolojisi ve Çevre **Planlaması**

P.Marinos
Faculty of Civil Engineering, Geotechıücal Department, National Tecnical University of Athens, 106 82 Athens, GREECE
Tel: 30-1-3813-900 Fax: 30-1-3813-900

Jeoloji, kent planlaması ve dizaynında, önemli rol oynamaktadır. Yerleşim yerlerine duyulan ihtiyacın, artması, yerleşim yeri seçiminde farklı " alanların kullanılması gerekliliğini ortaya çıkarmaktadır. Erozyon, yer[l] kayması, heyelan,, sel baskını ve deprem .gibi doğal yer hareketleri, yerleşim, **yerleri** seçiminde göz **önüne** alınması gereken durumlardır,. Problem kentleşmenin gelişimi ile Eskilidir. Kentleşmenin gelişimi için detay haritalamalar ve özel teknikler gerekmektedir. Yeraltı, suyunun yerleşim, yerleri üzerinde: ve şehirlerin yeraltı suyu, üzerindeki etkisi değişkendir. Bugün, yapılan çalışmalarla şehirlerin ve çevresinin haritalanması jeologlar tarafından yapmakta ve çevre: plancılığına katkıda bulunulmaktadır..

2.X **Doğal** Enerji ve Çevre

M* **Hayashi**
Kyushu Sangyo University, 1-2-3 Matsugadai, Fukuoka 813, JAPAN
Tel: 81-92-673-5883 Fax: «1-92-673-5899

Bu bölüm doğal enerji kaynaklanma ve çevrenin incelenmesi, gelişini ve üretimi ile ilgilidir. Ana tema, jeotermal enerjinin bilimsel ve teknolojik problemleri üzerinde^ yoğunlaşmaktadır. Ancak fosil yakıtlar, rüzgar etkisi, gel-git gücü, dalga-enerjisi,, okyanus-termal enerjisi, güneş enerjisi, su gücü konulan da bu bölüm altında ele alınacaktır.

2.4 Madencilik ve Çevre

A.D. Paktanç
Mineral Science Laboratories, Canada Centre for Mineral and. Energy Tecnology, 555 Booth Street, Ottawa Kl A **0G1,** CANADA
Tel: 1-613-947-7061 Fax: 1-613-996-9673

Bm konu, başlığı altında, madencilik ve çevredeki yeni gelişmeler[l] üzerinde durulacaktır. Madencilikte pasa ve atık. kayaların saha ve laboratavar çalışmaları, asit kayaçlann üzerinde .kimyasal ve matematiksel metodlar. Çevrenin madencilik faaliyetleri ile **kirlenmesinin** önlenmesi ve kirlilik, kontrolü, üzerindeki yeni teknoloji ve uygulamaların bu soranlar gündeme getirilecektir.

2.5,. Jeolojik ve **Tarihi** Eserlerim. **Korunması**

L. **Lazzarini**.
Laboratories di .Anaiisi Del Materiali Antictıi, Diparümento di Storia deli[11] ArcMt.ett.ura (I.U..A.V..) S,. Polo 2554-1-30125 Venezzia, ITALY..
Tel: 39-41-719-153 Fax: 39-41-715-449

Sosyaloji, politika ve ekonomi ile ilgili, ülkeler için önemli tarihti ve: kültürel mirasın korunması konu alınmıştır.

Geçmişte yapı malzemesi kaya veya biriket ve kil, kireçtaşı ve jips gibi doğal ürünlerden sağlanmaktaydı.

Jeoloji 've **ilişkili** bilimler bu. materyallerin bilinmesi için temel katkıda bulunmaktadır.
Bu konu başlığı altında, eskiden kullanılan materyaller ve bunların kaynaklannın saptanması, bozulma nedenleri ve mekanizmaları ve eserlerin korunması için materyal ve metodlann geliştirilmeti. için. jeoloji bilimi. (jeoloji, mühendislik jeolojisi, petrografi, jeokimya, •vb.) katkı sağlayacaktır..

2.6. Minerallerin Myoişkvi
NLKjıyncak
Water[1] and. Earth Science Associates Ltd..,, Box 43Ö, **Carp, Ontario, KOA 1L0,** CANADA
Tel: 1-613-839-3053 Fax; 1-613-839-5376
Günümüzde çevre ve ekonomik ihtiyaçlar, irin ve geri dönumlü mineral, ve •atıklar[1] yeni. **tekniklerin** ve mineral. endüstrisinin, doğmasına neden **olmuştur.** Mineralleri filtreleme ve fosil yakıt bölgelerindeki biyoteknoloji ticari duruma **ulaşmıştır.** Ticari tecrübe ve bilgi akımı, biyo-işlevlerin uygulanma risklerini aza indi.rmektedir.

3.. **ÇEVRE** KİRLİLİĞİ

3.1. Hava Kirliliği

K. Curi
Department of Civil Engineering, Boğaziçi University, İstanbul, TURKEY
Tel: 90-212-263-1500 Fax: **90-212-265-8488**
Hava kirliliği gelişmiş bazı ûlkeleıde çok önemli sağlık. problemlerine yol açmaktadır. Bununla **birlikte,** çevre kirliliğine de yol açmaktadır.. Bu problemler farklı başlıklar altında ele alınacaktır. Esas olarak kirliliğin yayıliffii ve önlenmesine yönelik çalışmalara **yer** verilecektir.

3.2. Yüzey **Suyu** Kirliliği

H. Hoetzl
Department, of Applied Geology, Karsnıhe University, Kaisers*, 12, D-76128, Kadruhe, GERMANY
Tel: 49-721-608-3096 Fax:49-721-606-279
Yaşadığımız ekosistem içindeki yüzey • • suyu (göller, nehirler' vb.,) birçok tehlikelere maraz kalmaktadır,, Sn kalitesi biyolojik etkilerce ve kanal.izasyonl.arla değişir,. Kirlenmenin esas kaynağı endüstri ve yerel yönetim, kanalizasyon, sistemlerinde işlemden **geçirilmiş** ve geçirilmemiş atıklardır., Doğal, sistemdeki kirlilik limitlerinin göstergesi, olan **atıldan** mümkün olduğunca, saflaştırmak .gereklidir. Ytzey suyu **kirliliği,** ekosistemin (yeraltı suyu, sedimanlaı) diğer bölümlerine de etki eder. Nehir ve göllerdeki sedimanlar kirlenmiş çökeller için yeni riskler ve gelecekteki kirlenmeler için. kaynak olnştamıaktadır.

3.3',. **Yenriùsayu** Mrlîîîgi.

A. Pekdeğer
Freie Universität. **Berlin»** FRR **Rosttroff** ve Umweltgeologie^, **Maltesers*,** 74-100, D-12249, Germany
Tek 49-30-779-2612 Eax: 49-30-776-1779
Bu bolümde yeraHısuyn. kirliliğine değinilecektir. Organik ve inorganik, kirlenmelerin, taşınabilmesi ve yerdeğiştimesi ve kirlilik taşınma modellemesi incelenecektir., Doygun ve doygun olamayan, zonlarda kirlenme taşınmasının en. önemli faktörüdür. Yeraltı suyunun korunmasında ve öneminde teorik ve pratik bilgiler' önemli olacaktır.

3.4. **Denizel Kirlenme**

V. Yamto
Institute **for** Mature Conservation Research, Faculty of Life Science,, **Tel** Aviv University, Tel Aviv 69978, ISRAEL
Tel: 97.2-3-640-7772 Fax: 972-3-640-7304
Bu bölüm endüstriyel ve yerel atıklar toafindan deniz ortamının **kirlenmesi** üzerine odaklanmıştır. Denizel ortamın jeokimyasal, biyokimyasal, fiziksel, oşinogıafık, mineralojik, sedimantolojik ve biyolojik özellikleri,, kirlilik dağılımı (örneğin, ağır metal, PAH (s), bakteriler, atık kelleri, hampetrol,. deterjan, ve gübreler) özellikle kirliliğe neden olmaktadır., BB başlık altında **tartışılacak** konular[1] aşağıda verilmektedir.
- Denizel sulardaki .kirlilik birikiminin kimyasal süreçleri
- Foto- ve zooplanktcmlarla kirlilik birikimi
- Foto- ve zooplanktonlaıın uzaktan algılama metoduyla kontrolü ve kirlilik yayılıım
- Su çevrimi ve sedimanlann taşınması ve kirliliği
- 'Minerallerin, **totoca** özellikleri •
- **Sedbnanlardaki** kirlilik sorunları, kirlenmenin jeokronolojisi
- Kirlilik izlenmesinin anlamı ve yeni. metodlar.

3.5,. **Tamu ve** Toprak. **Kirlenmesi**

R» Rajagopal
Department of 'Geography, The. University of Lowa,. **Lowa** City, Iowa, 5224:2, USA
Tel: 1.-319-335-0160 Fax: 1-319-335-2725
Tanmsial etkinlikler- sonucunda çevresel kirlenmenin çeşitli yönleri tartışılacaktır.. Tarımsal etkinlikten doğan, toprak erozyonu gibi fiziksel kirlenmeler, gübreleme ile meydana gelen kimyasal, hayvansal atıklarla oluşan biyolojik kirlenmeler gibi konulan kapsayan araştırmalar, özettikle kirlilik izlenmesi ve tayini, **modelleme,** önlenme yollan, kontrollü bir **şekilde** yasal uygulamaları kapsamaktadır.

3.6, Radyoaktif Atıkların Depolanması
N. Chap man
QuantiSci Ltd/University of Sheffield, Melton Mowbray, LeicestersMre LE13 1AF, 'UK
Tel: 44-1664-411-445 Fax: 44-1664-411-402
Bu bölüm uzun zamanlar radyoaktif auk olarak kullanılan jeolojik oluşumlar üzerine odaklanmıştır, özellikle, yer seçimindeki karakteristik teknikler, yeraltı araştırma laboratavarlan ve kayaç karakteristiği tesisleri, yeraltı suyu modeilemesî ve farklı jeolojik oluşumlarda kirliliğin taşınması, zamana bağlı iklim etkilerinin hesaplanması ve yeraltı sularındaki jeolojik oluşumlar ve kayaç gerilim, sistemleri, Mdrokimyasal tanımlamalar ve paleohidroloji ve jeolojik verilerin radyolojik .güvenliği, konulan tartışılacaktır .

4. ÇEVRE. SAĞLIĞI,, YÖNETİMİ, POLİTİKASI VE KANUNLAR.

4.1. Çevre ve Sağlık
RWaDace
Preventive Medicine and Internal Medicine, Cancer Center, University of Iowa, Iowa City, Iowa 5.224.2-1009, USA
Bu bölümde, fiziksel çevrenin insanlarda goriüen kanser hastalıklarının bir nedeni olduğu dikkat çekilmektedir.. Özellikle jeolojik yapılar üzerinde yürütülen çalışmalaıla bu hastalıklara maraz kalan kişilerde kanser duşum riskleri anlatılacaktır. Bununla birlikte, .hem yeni. araştırma programlan hem de kanserin önlenmesinde yeni metodlardan bahsedilecektir. Soluma ile bünyeye alınan, .mineraller' ve kanser risklerinin hangi jeolojik formasyonlarla ilişkili olduğu, tartışılacaktır.

4.2* **İlaç** Sanayii ve Çevre
M. Çelik
Department of Pharmaceutics, College of Pharmacy, The State University of New Jersey RUTGERS, Pispataway, New Jersey, 08855-0789, USA,.
Tel: 1-908-445-2669 Fax: 1-908-874-7236
Son 30 senedir düşünülen, ilerleme, ilaç üretiminin gelişimi ve imalinim çevreye etkilerinin anlaşılmasına. harcanmıştır.. Çevreyi kirleten bazı. kirlilik faktörleri vardır.. "İlaç sanayi, ve çevre[1]" başlığı altmda bu kritik faktörlerden, bazıları (kaplama, paketleme maddeleri ve kimyasal materyalin rolü gibi) tartışılacaktır.

4.3. Çevre **YSnetimi**
A. **Robertson**
Robertson Geoooonsultants Inc., Suite 902$_3$ 580 Hornby Street, Vancouver, R C , V6C 3B6 CANADA.
Tel: 1-604-684-8072 Fax: 1-604-681-4166

Çevresel faktörler Ye sorumluluklar, mineral kaynaklanılın araştmlmasındaki en büyük ilgi ve .harcamaları oluşturmaktadır. Harcamalar[1] sadece doğrudan çevre koruması, temizliği, ve düzenlenmesi ile ilgili değildir.. Bunların yanışım potansiyel çevre etkilerinin araştırılması, .ruhsat verilmesi, dizen kontrolü, izleme ve araştırıcı ilişkileri ve finans sektörü ile bağların kurulması önemlidir. Risk yönetimi, mineral ve maden araştırma projeleriyle aynı. zamanda başlatılmıştır. Gelecekte, çevresel etki yaratan projeler elenerek, düzenlemeler getirilecektir.. Böylece "Kapama dizaynı" adında bir kavram, doğmuştur.. Bu bölüm çevre yönetimi, riskleri, ve sorumluluklarım kapsamaktadır..

44.. Çevresel Politika ve kanunlar
ÀJL Johnson
AU Inc., Water and Soil Engineering Consulting, 7474' Upham Court, Arvada, Colorado 80003 USA
Tel: 1-303-425-5610 Fax: 1-303-425-5610
"Çevre Politikası ve Kanunlar[11] sempozyum programının önemli, bölümlerinden biri. olacaktır. Günümüzde ve gelecekteki düzenlemeler ve kanunlara bağlı düşüncelerin, katı düzenlemeleri ve konuların geliştirilmesi ve sn, toprak, tanın ve insan ile diğer •yaşayan canlıların çevresel yönünün ülke ekonomisine sağladığı endustriyen gelişimin önemi belirtilecektir.

4.5, Su Kaynaklarının Korunması.
W,F, **Balderer**
Engineering Geology, Geological Institute, Federal. Institute of Technology;, ETH-Zurich/Honggerberg, CH 8093, Zurich, SWITZERLAND
Tel: 41-1-633-2743 Fax: 41-1-633-1108
Yeraltı suyu yönetiminin kantitatif yönü, deniz suyu girişimi, hidrolik boşlukların azaltılması ile iletilebilmektedir. Yeraltı suyunun kirlenmesi,, su çevrimi İle sağlanmaktadır.
- atmosferik emisyonun kontrolü
- yeraltı su kaynaklarının korunması, konman alanların yönetimi, ve kirlilik risklerinin kontrolü
- içine suyu sağlanması, sulama ve jeotermal enerjinin üretilmesi gibi diğer aktiviteler su kaynaklarının işletilmesi, için. önemlidir., Gelecekte yürütülecek çalışmalar yeraltı su kalitesinin ve miktarının için teknik modelleımeleri getirecektir.

46.. **Çevresd-Simidasyon**
M.M. Aral
School of Civil and Engineering, Georgia Institute of Technology, Atlanta, Georgia, 30332 USA
Tel: 1 -404-894-2243 Fax: 1 -404-894-5111
İnsanları yaşadığı, çevre, çevresel, jeokimyasal, biyolojik çevrenin değişik süreçlerinin anlaşılması hakkındaki temel soranlarla, karşılaşmaktadır.. Toksik

maddeler, yukarıda isimleri açıklaman ortamlarda, yaygındır. Bununla birlikle, bilimadamlan çevrenin bir butun olarak düşünülmesini ve bilim ve düzenleyici. **uygulamaların,** mnltimedya ve intemıedya. yolları arasındaki karmaşık etkileşimin beraber olası gülüşünü benimsemişlerdir.. Çevrede açığa» çıkan kirlilik, karmaşık fiziksel,, kimyasal ve biyolojik .süreçler' sonucu olarak hava, su, toprak, biUrilendirme gibi bazı çevresel ortamlarda, dağılmış olduğunu ve böylece çevresel kirliliğin mutimedya problemle birlikte vergi kapsamına alınması gerekmektedir. Ortamdaki kirliliğin taşınması ve biriktirilmesi çok dikkatli olarak düşünülmeli ve değerlendirilmelidir., Bu **bölümde** bu karmaşık karakteristik problemler[1] simıılasyon tekniği **ile** açıklanmaya çalışılacaktır.

5. YÜZEY yi YÜZEYI *Y AMIN* BÎLÎMLER VE TEKNOLOJİLERİ

5.1. Yüzey mîkroskopisd ve mikroanaliz

BL Avcı
Department of Physics, Montana State University, Bozeman, Montana. 59717-03550 USA
Tel: 1-406-994-4199 Fax: **1-406-994-6165**

Materyallerin -yüzeyleri, .kitlesi, fiziksel özellikleri, ve kimyasal reaksiyonlarla meydana gelecek **durumları** farklıdır. Birçok kimyasal reaksiyon, yüzeyin en üst tabakasında. (0-50A) moleküler veya atomlar tarafından kuşatılmaktadır. Materyalin toplam, kütlesinden türeyerek meydana gelen korezyon gibi tüm kimyasal ve biyolojik reaksiyonlar materyalin yüzeyinde başlamaktadır.

Bu toplantı süresince hassas yüzey analizleri ihtiyaç duyulan birçok, konu. tartışılacaktır.. **Biyofilm** ve bunların yüzeyle olan etkileşimleri, kayaç iz element **analizleri,** toprak ve bitkiler konusundaki problemlerle **ilgili** araştırıcılara, çağrıda bulunulmaktadır. Esas konu. hassas yüzey analizlerinin ve bunların çevresel ve jeoloji **ile** olan ilgileri, hakkındaki problemlere uygulamalı çözümler getirmektir.. Bu konu. **ile** ilgili teknikler (belli bir sınırlama yoktur) kücuk-spot-x-ışınlan, fotoelektron spektoskopi, taramalı Auger elektron spektroscopy, imaging . , tim.e-to-fli.ghgt secondary ion mas spectroskopi ve atomik force micıoskopi analizlerine yer verilecektir;.

5.2. Taramalı Elektron Mikroskop:! ve **Mikroanaliz**

D. Joy
Department of Biochemistry and. Cellular and Molecular Biology, College of Arts and. Sciences, Division of Biology, The University of Tennessee, **Knoxville,** Tennesssee 37996-0830 USA
Tel: 1-423-974-5158 Fax: **1-423-974-6306**

Taramalı elektron mikroskop! ve mikroanatizlei; çevre-biliminde özel. bir konuma sahiptir. Sempozyumda bu 'başlık, altında sunulacak konular

- çevresel taramalı mikroskopi
- düşük vakumlu sistemlerde mikroanaliz
- düşük voltajlı taramalı mikroskopi ve mikroanaliz,
- araştırma ve öğrenme amaçlı bilgisayar kontrollü SEM «ler
- elektron. ışınlı aletlerin, kullanımı, pratik uygulamalar ve problemlere çözüm bulmak amaçlanmaktadır.

5.3,. **Transmission** .Elektron. **Mikroskopi ve Mikroanalizler**

S.Seraphin
Department of materials of Science and Engineering, The University of Arizona, Tucson, Arizona 85721. USA
Tel: 1-520-621-607.5 Fax: 1-520-621-8059

Konular, transmission ve scanning-transmission elektron mikroskopi, convergent-beam electron diffraction.,,, selected-area, elektron difraction, x-ismlan. spektroskopi ve elektron energy loss spectroskopisinin jeoloji ve çevre bilimlerinde uygulanabilirliğidir. Materyallerin yapısal ve kompozisyona! parametrelerinin mikroanaliz teknikleri ile uygulanabilirliği bu bölümün genel konusunu teşkil etmektedir..

5.4.. Materyaller ve Laser **Confocal** Light **Microscopi** ile **Biyomedikal Uygulamalar**

K.G Moore
Central. Microscopy Research Facility,. The- University of Iowa, Iowa city, Iowa 5.2242-1101 USA.
Tel: **1-319-335-8142** **Fax:** 1-319-335-8049

Araştırıcıların sunacağı konular, Laser' Scanning ve Disc Scanning Confocal Microscopy yöntemleri, tarihsel, perspektif ve teorilerle birlikte genel bilgileri kapsayacaktır. Bu yeni teknolojilerin, yaygın, olarak uygulama alanı Lazerli Taramalı Confocal Mikroskopi (LSCM) ve bunların biyoloji ve: eczacılığa uygulanmasıdır. Bununla birlikte, LSCM 'nin kullanılmasının daha. iyi anlaşılması için günümüz jeolojik materyalleri kapsayan materyal bilimciler tarafından artan kullanım alanları konu alınmaktadır., Disc: Scanning Confocal Microscopi (DSCM) yaklaşık 20 yıldan beri LSCM olarak, materyaller için uygulanmaktadır.,

5,5.. **.İmaj Analizleri**

J.K. Beddow
Department of Chemical and Biochemical Engineering The University of Iowa, Iowa City, Iowa 52242 USA.

Tel: 1 -31**9-337-2474** Fax: 1-319-337-2474
Konular, optik veya. elektron imaj veya. bu konularla ilgili kollanılan veya gelişmiş imaj analiz **metodlan** hakkındadır., hıralar aşağıdaki kapsam içindedir;
- Ölçülebilir imaj özelliklerinin teorik, **göiunftnüeri,**
- Sedimanter çokellerin davranışları,
- Jeolojik, kesitlerim hazırlanmasında mikro-yapısal analizler,
- Fotograf veya dijital imajlardaki özelliklerin imaj analizleriyle, uzay veya yüksek bölgelerden alınması.

PANELLER

Gelecekteki Çevre:
G.Teutsch
Geologisches Instate, Universtaet Tuebningen, Sigwarstr, 10, Tubingen, 72076, GERMANY
Tel: 49-7071 -296-468 **Fax:** 49-7071 -5059
Panel konulan, çevrenin korunması ve çevre kirliliğinin önlenmesi, üzerine yapılacak olan **sunumları** ve yeıbilimleri açısından tatışmalan kapsayacaktır, Sunumlar aşağıdaki, başlıklar .altında, yapılacaktır..
- İnsanoğlunun yarattığı **kirliliklerin** tanzim edilmesi, riskleri ve teknolojileri
- toprak ve yeraltı suyunun korunması, sınırlanması ve perspektifi
- su. ve: .hava kirliliği, izlenmesi ve anlaşılması,
- çevresel standartlar

2000 **Ti Yıllarda Yerbilimlerinde Eğitim**
M, Boğan.
Depatrment og Geological Engineering, Hacettepe university, Ankara, TÜRKİYE
Tel: 90-312-235-2979 Fax: 90-312-235-2979
Panel, "üniversitelerin 2000 Ti yıllardaki jeoloji eğitimi ile ilgili yerbilimleri, yaşam Minileri, **mühendislik;** hukuk, ve politika gibi. birbiriyle ilişkili dallarda. bilimsel konular birlikte -ve çevre bilimleri gibi yeni programlan kapsamaktadır.

Yuvarlak Masa. **Toplantısı**
İMversiie-Eıidiistri **Etkileşimi**
K.C. **Moore**
Central Microscopy Research Facility, The University of Iowa, Iowa city, Iowa 52242-1101 USA..
Tel: 1-319-335-8142 Fax: 1-319-335-8049

IOSA KURSLAR

S-!.. Asit-Maden Drenajı
N.Kuyucak
Water and Earth. Science Associates Ltd., Box: 430, Carp, Ontario, K0AIL0, CANADA
Tel: 1-613-839-3053 Fax: 1-613-839-5376

Madenciliğin çevreye olan etkileri, asit madenciliği,, **drenajı (AMD),** sffifit mineral artıklarının oksidasyonu,, madencilik endüstrisi konulan işlecekür.

S-2.. Toprak Kaymaları ve Çevre **tie** Bişkisi
M J L **Popescu**
Department of Soil Mechanics and Foundation Engineering, University of Civil Engineering, P.O. Box: 2-45, 78172, Bucharest 2,. ROMANIA
Tel: 40-1 -657-2375 Fax: 40-1 -312-2720
Toprak kaymaları doğal veya suni* materyallerin aşağılara doğru kayma, ve yerdegiştimıesi ile ilgili işlevler olarak .kullanılır.. Düşme, akma ve kayma, gibi üç esas mekanizma, vardır.
Toprak, kaymaları maddi ve manevi kayıplara neden olmakta ve şehir gelişimi ve bölgesel kullanımlarda değişiklik yaratan bir problemdir.
Bunların etkilerinin ölçülmesi, aşağıda detaylıca verilen jeomorfolojik, Mdrojeolojik ve jeoteknik özelliklerin planlanarak, esas mekanizmalan ve neden olduğu, faktörlere 'bağlıdır.
Kurs kapsamında, mühendislik jeolojisi, jeoloji, jeoteknik. mühendisliği ve jeomorfoloji konularında çalışanlara yeni. veya oluştuğu bilinen özellikler hakkında bilgi verilecek,, toprak kaymalanmn kontrolü ve önlenmesi tartışılacaktır.

S-3. **Çevre Bilimleri** ve: Teknolojisindeki Elektrom **Mikroskobu** teknikleri
D. **Joy*,** KC Moore» U. Doğara and **S. Séraphin**
• Department, of Biochemistry and Cellular and Molecular Biology, College of Arts and Sciences, Division of Biology, University of Tennessee, Knoxville, Tennessee 37996-830 USA..
Tel: 1-423-974-5158 **Fax:** 1-423-974-6306
Kurs kapsamındaki konular;
- Elektron mikroskobunun temel teorisi
- SEM ve TEM "in pratik kullanımı
- dijital görüntüleme, görünü analizi ve teknolojisi
- SEM ve TEM "deki nıikro^analizlerdir (EDS ve WDS).

S-4. imaj **Analizlerinde** Yeni Strateji ve Taktikler
J.K.Beddow
Department of Chemical and Biochemical Engineering, The university of Iowa, Iowa *City,* Iowa. 52242, USA.
Tel: 1-319-337-2474 Fax: 1-319-337-2474
Ticari imaj .analizleri rutin, işlerde kullanılır.. Bu kurs kapsamındaki 1-im.aj analiz, teorisi.,. 2-profiller, flaksler ve fiberler, 3-boyut, doku.,, mikroyapı ve yüzey .hakkında bilgiler verilecektir:.

S-5. Elektrik ve **Elektro-manyetik Metodlarm** Çevreye olan etkilere **Uygulanması**
M.Meju

Department of Geology, University of Leicester, Leicester, LEI TRh UK
Tel: 44-116-252-3628 Fax: 44-116-252-3918
Yeraltı hakkındaki bilgiler jeofizik ölçümler ile anlaşılmaktadır. Bununla birlikte, elektrik, ve elektro-manyetik 'yeraltı resistrate metôdlan, jeolojik ve çevresel araştırmalarda oldukça kullanılan bir metottur., Kursta, elektrik ve elekto-manyetik. metodlanndaki yeni gelişmeler ve jeoloji ve antropolojik saptamalarda ' resistivite karakterleri, optimum, yüzey planlaması, GEM ölçümlerinde uzaysal-zaman ilişkileri ve arazi verilerinim aynmsal karakteri konulan ele alınacaktır,

S-6 İnternette Madencilik» Yerbilimleri ve Çevre Mühendisliği
A.MacG. .Robertson
Robertson Info-Data Inc., Creators of the INFO-MINE, #902 - 580 Hornby St., Vaancouver, B.C., V6C 3B6 CANADA
Tel: 1-604-684-6072 > Fax: 1-604-681-4166
Kursla ilgi.l.1 konular şu şekilde verilebilmektedir;
- Profesyonel iletişim
- İnternette uzaklık ve işbirliği.
- teknoloji, servis ve yer seçimi
- maden, yerbilimleri ve çevresel yayınlar ve bilgi kaynaklan
- maden, yerbilimleri, ve çevresel bilgilerin internete geçirilmesi
- madencilik şirketleri veya çevre servislerinin organizasyonu vb.,

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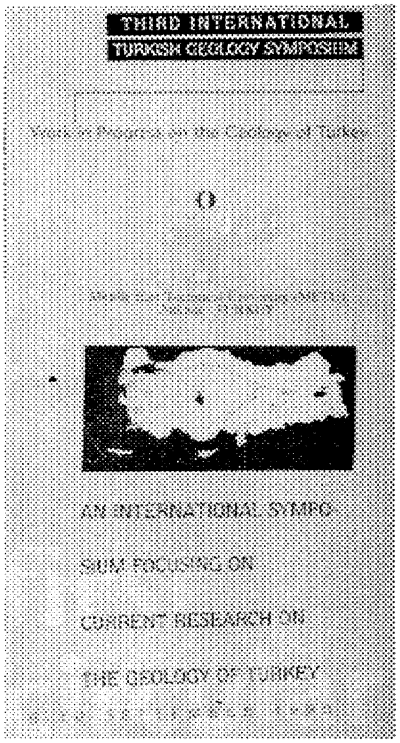
THIRD INTERNATIONAL TURKISH GEOLOGY SYMPOSIUM:

Middle.Emsi Tecnical University (METÜ) -Ankara
Konular:
-Paleo-tektonik (Geç: Paieozoyik-Mesozoyik olaylar, şutor zonlar, Karakaya Problemi, rifUer, basen. oluşumu)
- Neotektonik (Türkiye 'nin ve komşu bölgeleriB. sismolojisi. Kuzey Anadolu. Fay Zonu, Doğu Anadolu Fay Zonu, Batı Anadoluda sıkışma, rejtimi, Ege Bölgesi,, Kuvaterner Jeolojisi, Basen dinamiği).
- Stratigrafi ve Paleontoloji (Karbonat platformu 'nun evrimi., Geç Paleozoyik, Tersiyer Evrimi, Stratigrafi birimleri, Uygulamalı paleontoloji. Deniz paleontolojisi).
- Sedimantoloji (mikrofasiyesler, diyajenez, sedimanter yapılar, paleoakıırtı analizleri)
- Magmatizma (dalma-batma, çarpışma, gerilme ile ilişkili magmatizma. ve ofiyolitler)
- Piroklastikler (yerdeğiştirme, tefrakraıoloji)
- Çevre* jeolojisi ve mühendislik uygulamaları (çevre kirliliğinin kimyasal boyutları., kaıst ve boşluklar, çevre jeolojisinin ilgi alanları, :müliene&slik jeolojisi, hidrojeoloji, şehir jeolojisi)
- Metamorfizıma ve metamorfik kuşaklar (tektonik •yerleşim, yeryüzüne yükselim)
- 'Mineral ve enerji kaynakları, (metalik ve endüstriyel yataklar, kömür, petrol and, jeotemal enerji)



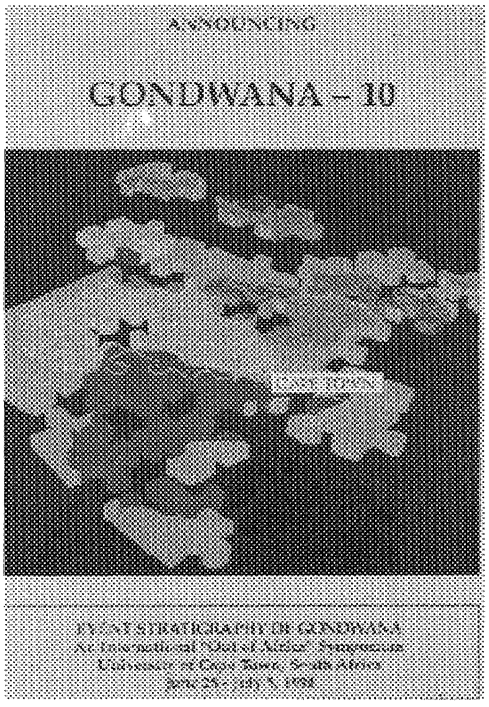
- Uygulamalı mineraloji ve: deneysel petroloji
- Uzaktan, algılama ve jeolojide GIS< • uygulamaları
-Deniz jeolojisi
- Jeoaıkeoloji

Kongreler
Bilimsel,.
- Ankara, melanjı.
- Ankara, bölgesinde yay-öni sekanslar
- Ankara, melanjmda Rosso AmmoMticQ fasi^sler
- Galatean volkanikler
- Ankara melanjmda bentonit yalakların jeolojisi
- Boludağ tüneli: gezi yolu, ikili tap ötoj^hı 'tüneli
Sosyal,
- Hattaşaş (Hititlerin Başkenti)
- Gordiyon (Eski. Firi,gya kenti)
Kongre Sonrası,,
- Kuzey Anadolu Fay Zonu
- Kapadokya jeolojisi

- Karakaya kayaç toplulukları

Adres: Dr.Eıdin Bozkurt
Organizing Secretary
Third International Turkish Geology Symposium
Department of Geological Engineering
Middle East Tecnical University
06531.Ankara, Türkiye

Sempozyum, tariki : 6-10 Eylül 1998



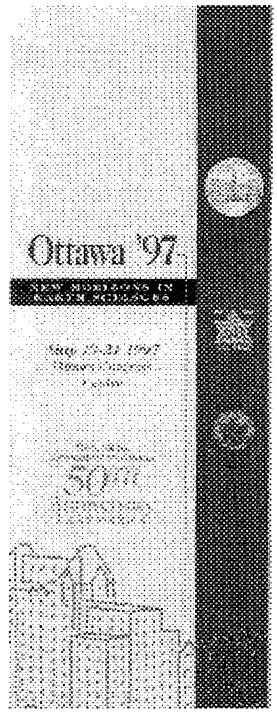
GONDWANA. -10
EVENT **STRATIGRAPHY** OF GONDWANA

Konular:

- Gondwana 'nın oluşumu ve- Neo-Proterozoyik-Cambriyen 'deki olaylar
- Gondwana 'daki iklim değişiklikleri
- Gondwana karalannın gruplaşması
- Feimo-Triyas stninndaki global olaylar, global iklim değişiklikleri, superkıta "nın özellikleri,.
- Kretase-Tersiyer 'deki olaylar
- Go'ndwana 'mn iç bölümleri ve dış çizgisi, etrafinda. gelişen magmatik, tektonotermal ve mineralleşme olayları
- Gondwana "mm parçalanma ve fragmanlara aynlma süreci, epirojenez, morfolojik ve paleo-oşinografik değişimler'
- Gondwana 'da dağ faışaklannın metamorfik çekirdeklerindeki mineral büyümeleri,
- Pan-Gondwana orojenik kuşaklar ve Prekambriyen-Cambriyen sınırı
-Paleozoyik foiizullanması ve bulgular,
- Son superkrta "nın parçalanması ve Kinımerit / alkali kompleksin kökeni, karasal bazaltların kaynağı.

Adres : Department of Geological Sciences
University of Cape Town
Private Bag Rondebosch, 7700
South Africa.

Kongre tarihi : 28-Haziran/ 5-Temmuz-1998



OTTAWA[1] 97
S0[A] ANNIVERSARY **CELEBRATION**

Konular:

- Metamorfik petrolojide mineral-ölçekleri
- Kanada Jeolojisi
- Bugünkü ve eski. şevlerin jeolojisi
- Kıtasal yay-arkası riftlerinin tektonik, magmatik ve Mdrotermal ^e\[f]rimi
- Batı Maritimes baseninin kökeni ve evrimi
- » NATMAP kalkanı projesi
- Radar uzaktan algıfema ve RAD ARS AT
- Jeolojik, data yöntemi ve GIS
- Kuvaterner sedimanlarındaki akifer hidrolojisi ve bölgesel Jeoloji
- Maden yatakları ve jeolojisi
- Batı superior LITHOPROBE ve NATMAP[5] projesi
- Metamorfik harita alma
- Gtnûmüz ve geçmişteki dokümanlarla çevresel değişim

- Grenvîle orojenezinînin .günümüzdeki etkileri •
Adres : Ottawa '97
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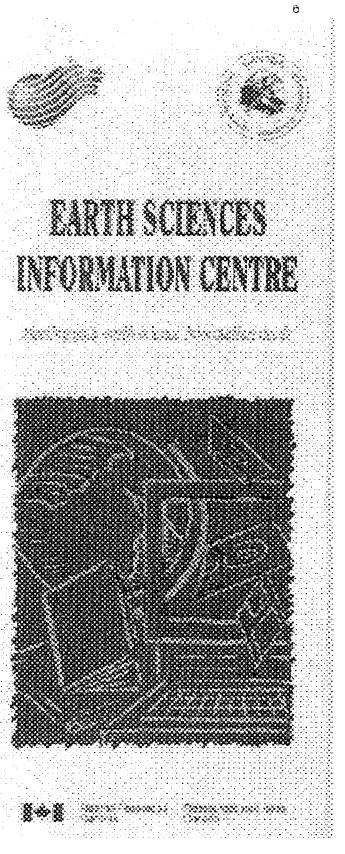
Ottawa, Ontario,, Canada Kl A OES
Band duyuru tarihî : Mart-1997
Kongre tarîki : 19-21 Mayıs-1997



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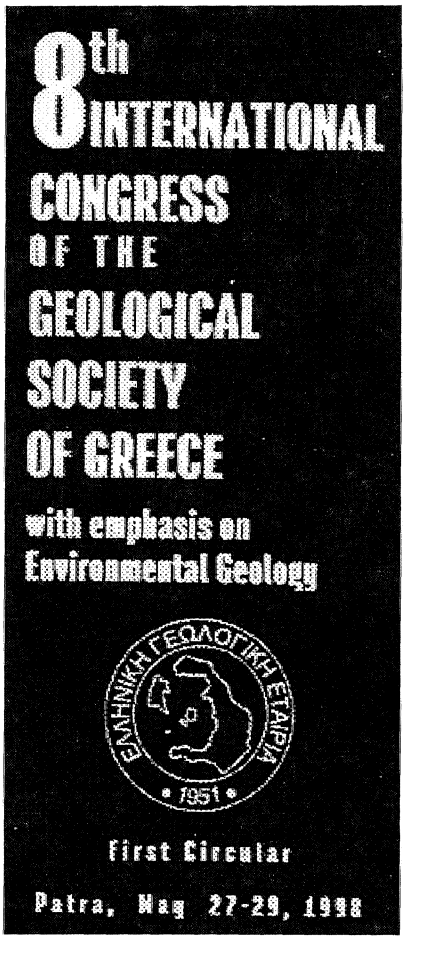
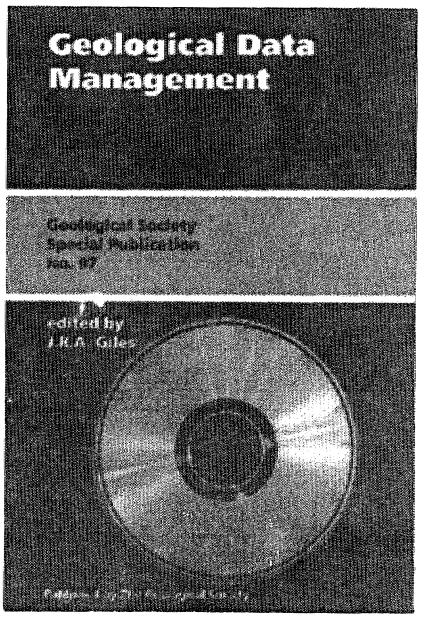


neotektonik, jeotermik,, mineral, ve enerji, kaynaklan, jeokimya, hidrojeoloji, mühendislik jeolojisi, deniz jeolojisi, fiziksel coğrafya, uzaktan algılama, jeolojide bilgisayar' uygulamaları,, çevre jeolojisi
Adres: 'Mrs. D. Soldatou
University of Patra.-Department of Geology
P..O. Box 1421-261 10 Pata-Greece
Bildirilen son gönderme tarihi : 31. Ocak 1998
Sempozyum tarihî : 27-29, Mart 1998

Yeni Yayınlar / Kitaplar

GEOLOGICAL DATA MANAGEMENT
(JEOLOJİK VERİ YÖNETİMİ}
JLRA.. Gilles, K. **Rasmussen,** KX Chew, J.S,. **Coast»**

Bu kitap yaratıcılık, yöneticilik ve jeolojik veri tabanı kullanımı, jeolojik veri tabanı dizaynı ve yönetimindeki prensip ve pratik uygulamaları kapsamaktadır.



İçindekiler: Jeolojik veri yönetimi, veri tabanı, veri tabanı analizleri ve jeolojik sistemin oluşturulması, petrol jeolojisi, veri tabanının genel modellemesi, jeokimyasal, veri tabanı dzaynı, BGS deneyleri, jeolojik harita verileri, jeolojik verilerin değerlendirilmesi., endüstri için veri modelleri, paleantoloji veri tabanının yaratılması, kaya mekaniği ve jeoteknik veri tabanı, veri yönetimi,, jeolojik veri yönetimi,, NERC deniz bilimlerinde uygulama ve araştırmaya yönelik veri tabanı, jeolojik veri değerleri ve petrol endüstrisinde •yöneticilik, İngiltere ve Galler "deki yeraltısu seviyesi, Hondras 'daki hidrojeolojik veri tabanı, CD-ROM ve petrol, endüstrisindeki uygulamaları.
Geological Society Special Publication No. 97, 192 sayfa, ISBN 1-897799-39-X, ederi:55 sterlin, 91 dolar.,

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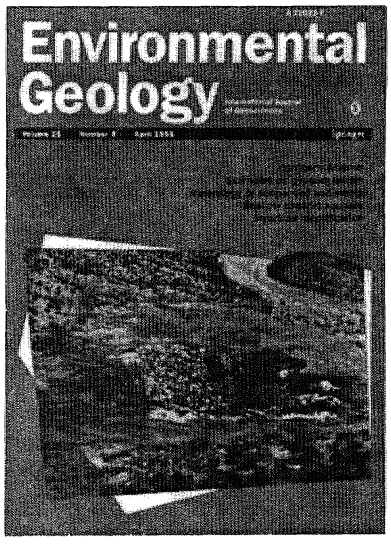
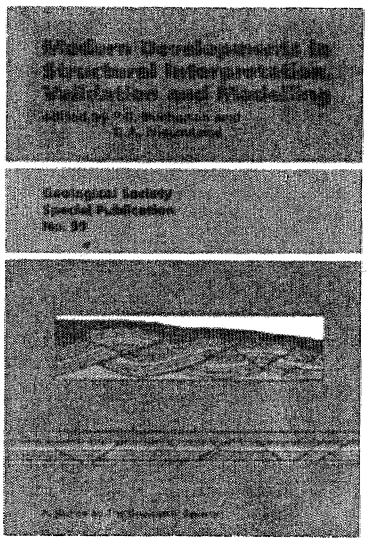
ENVIRONMENTAL- **GEOLOGY**
(ÇEVRE JEOLOJİSİ)

Editörler: P.E. LaMoreaux (Tuscaloosa-Almanya); A. McCarley (Tuscaloosa - Almanya); G. Dörhöfer (Hannover - Almanya.)
- Endüstriyel aktivitelerle ortaya, çıkan su ve toprak kirliliği
- Taşınma ile ilişkili çevre problemleri
- Jeolojik işlevler ve biyosistem ve insan
- İnsan ürünü, veya jeolojik kirlenme
- Dünyadaki materyallerin yarattığı çevre problemleri



- Petrol, gaz, su ve enerji gibi endüstriyel mineral, kömür, madenlerin aktiviteleri sonuca ortaya çıkan çevre: problemleri
» Kirliliğin yarattığı çevre etkileri
- Sosyo-politik bölge yöneticiliği
- Data-bank ve bilgi sistemleri ile çevre yöneticiliği

EARLY **PRECAMBRIAN PROCESSES**
(ERKEN PREKAMBRÎYEN İŞLEVLER)
M.F.. Coward, RW, **Nesbitt,** M.X de Wit, **P. Choukroume,** RG. Park, T.J.. **Wynn,**
Bu .kitap Prof. Jota Sütüm hin çalışmalarına itaf edilmiştir.. Erken Pîekambriyen döneme ait jeolojik problemler ve tarihsel jeolojisini kapsamaktadır.



içindekiler: Mdıosfer ve okyanussal kabuk, arasındaki geçişler,, ilk kıtasal kabuk, kabuk, gelişimi, yüzey ve atmosferin evrimi, eski ekoloji, bakterilerim evrimine kanıtlar,, büyük, ölçekte biyosfer, greenstones kuşaklarının tektoniği, Arkean gelinimi, Zimbabwe "de Arkean deformasyonıma örnekler, Zimbatove kratonunda Arkean felsik sekansının zirkon jeokronolojisi, Arkean super' kıta oluşumu, Yilgam kratonuna kanıtlar, Yilgam kratonundaki altın yatakları, Arkean 'daM hidrotermal sistemler, Kuzey • Atlantik, ve Baltık. faatonundaki Erken. Protorezoyik dayidar, Paleoproterozoyik Lawentia-Baltica ilişkisi, alt. kıtasal kabuğun defonnasyonn

Geological Society Special Publication No.95, **308** sayfa, 149 şekil, ISBN 1-897799-36-5,, 1995, ederi: 68 sterlin, 112 dolar.,

Jeoloji Takvimi

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— JL-L Cuendwv CNRS;, Contra *Mxm>* da Géographie Physique, 2®. Av. R-Scruuman.. F 13021 Aix-am-Provence Cedex t. Tel.,. 42 95 38 70. Fa» *12* 90 04 *20.*
— F. Qlaz Del On». Dept. Géographie Physique. Üniversite de Seville, o'Mariia, de IPadilla s/Jn, 41002 Seville', Espagne. Tél. 34/54 55 13. 66. Fax 34/5* 5S 13 51.,

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