

AUTHOR INDEX, VOLUME 78, 1993

- Abbott, R.N., Jr.: Calculation of the orientation of the optical indicatrix in monoclinic and triclinic crystals: The point-dipole model, 952
- Agel, A. *see* Petrov, I., 500
- Amarantidis, G. *see* Vali, H., 1217
- Anderson, A.J., Bodnar, R.J.: An adaptation of the spindle stage for geometric analysis of fluid inclusions, 657
- Anderson, A.T., Jr., Brown, G.G.: CO₂ contents and formation pressures of some Kilauean melt inclusions, 794
- Angeli, N. *see* Fleet, M.E., 68
- Ansdell, K.M., Kyser, T.K.: Textural and chemical changes undergone by zircon during the Pb-evaporation technique, 36
- Armbruster, T.: Dehydration mechanism of clinoptilolite and heulandite: Single-crystal X-ray study of Na-poor, Ca-, K-, Mg-rich clinoptilolite at 100 K, 260
- Armbruster, T., Oberhänsli, R., Kunz, M.: Taikanite, BaSr₂Mn₂³⁺O₂[Si₄O₁₂], from the Wessels mine, South Africa: A chain silicate related to synthetic Ca₃Mn₂³⁺O₂[Si₄O₁₂], 1088
- Artioli, G., Rinaldi, R., Ståhl, K., Zanazzi, P.F.: Structure refinements of beryl by single-crystal neutron and X-ray diffraction, 762
- Ashworth, J.R.: Fluid-absent diffusion kinetics of Al inferred from retrograde metamorphic coronas, 331
- Back, M.E. *see* Swihart, G.H., 835
- Bagdassarov, N.S. *see* Keppler, H., 1324
- Bai, T.-B., Guggenheim, S., Wang, S.-J., Rancourt, D.G., Koster van Groos, A.F.: Metastable phase relations in the chlorite-H₂O system, 1208
- Baker, D.R.: The effect of F and Cl on the interdiffusion of peralkaline intermediate and silicic melts, 316
- Balzar, D., Ledbetter, H.: Crystal structure and compressibility of 3:2 mullite, 1192
- Banerjee, S.K. *see* Brown, N.E., 941
- Bartelmehs, K.L. *see* Downs, R.T., 1104
- Bassett, W.A. *see* Shen, A.H., 694
- Baumer, A. *see* Raimbault, L., 1275
- Benkerrou, C. *see* Raimbault, L., 1275
- Bény, J.-M. *see* Della Ventura, G., 980
- Bershov, L.V. *see* Petrov, I., 500
- Bevins, R.E. *see* Robinson, D., 377
- Birch, W.D., Pring, A., Reller, A., Schmalte, H.W.: Bernalite, Fe(OH)₃, a new mineral from Broken Hill, New South Wales: Description and structure, 827
- Bischoff, J.L. *see* Rosenbauer, R.J., 1286
- Bish, D.L. *see* Stebbins, J.F., 461
- Bish, D.L., Post, J.E.: Quantitative mineralogical analysis using the Rietveld full-pattern fitting method, 932
- Bishop, F.C. *see* Mohanan, K., 42
- Blacic, J.D. *see* Mathez, E.A., 753
- Bodnar, R.J. *see* Anderson, A.J., 657
- Boettcher, S. *see* Montana, A., 1135
- Boggs, R.C., Howard, D.G., Smith, J.V., Klein, G.L.: Tschernichite, a new zeolite from Goble, Columbia County, Oregon, 822
- Bohlen, S.R., Peacor, D.R., Lawrence, V.: Report of the Editors for 1992, 861
- Boisen, M.B., Jr. *see* Downs, R.T., 1104
- Botinelly, T. *see* Brownfield, M.E., 653
- Bottazzi, P. *see* Hawthorne, F.C., 733
- Brearley, A.J. *see* Spilde, M.N., 1066
- Brearley, M. *see* Montana, A., 1135
- Brodholt, J., Wood, B.: Molecular dynamics simulations of the properties of CO₂-H₂O mixtures at high pressures and temperatures, 558
- Brown, G.E., Jr.: Presentation of the Mineralogical Society of America Award for 1992 to Jonathan F. Stebbins, 853
- Brown, G.G. *see* Anderson, A.T., Jr., 794
- Brown, N.E., Navrotsky, A., Nord, G.L., Jr., Banerjee, S.K.: Hematite-ilmenite (Fe₂O₃-FeTiO₃) solid solutions: Determinations of Fe-Ti order from magnetic properties, 941
- Brownfield, M.E., Foord, E.E., Sutley, S.J., Botinelly, T.: Kosnarite, KZr₂(PO₄)₃, a new mineral from Mount Mica and Black Mountain, Oxford County, Maine, 653
- Burdett, J.K., Hawthorne, F.C.: An orbital approach to the theory of bond valence, 884
- Burke, E.A.J. *see* Jambor, J.L., 672, 845
- Burnham, C.W. *see* Stebbins, J.F., 461
- Burns, P.C. *see* Hawthorne, F.C., 265
- Burns, P.C., Hawthorne, F.C.: Tolbachite, CuCl₂, the first example of Cu²⁺ octahedrally coordinated by Cl⁻, 187
- Buseck, P.R. *see* Sharp, T.G., 85
- Buseck, P.R. *see* Tsipursky, S.J., 775
- Campbell, J.L. *see* Czamanske, G.K., 893
- Canil, D. *see* O'Neill, H.St.C., 456
- Cannillo, E. *see* Oberti, R., 746
- Carlson, W.D.: Mechanisms and kinetics of apatite fission-track annealing—Reply to Green et al., 446
- Carlson, W.D.: Mechanisms and kinetics of apatite fission-track annealing—Reply to Kevin D. Crowley, 213

- Carmichael, I.S.E. *see* Righter, K., 1230
 Carroll, M.R. *see* Rubie, D.C., 574
 Carroll, W.J. *see* Nekvasil, H., 601
 Cassidy, W.A.: Memorial of Alvin Jerome Cohen, 1918–1991, 1340
 Charbonneau, H.E. *see* Edgar, A.D., 132
 Charnock, J.M. *see* Henderson, C.M.B., 477
 Cheng, W. *see* Ganguly, J., 583
 Cho, H., Rossman, G.R.: Single-crystal NMR studies of low-concentration hydrous species in minerals: Grossular garnet, 1149
 Chou, I-M. *see* Shen, A.H., 694
 Clayton, R.N. *see* Karlsson, H.R., 230
 Cool, T. *see* Dove, M.T., 486
 Cooney, T.F. *see* Wang, S.Y., 469
 Criddle, A.J. *see* Wilson, J.R., 1096
 Cross, L.R. *see* Dyar, M.D., 968
 Crowley, K.D.: Mechanisms and kinetics of apatite fission-track annealing—Discussion, 210
 Croze, V. *see* Raimbault, L., 1275
 Czamanske, G.K. *see* Hawthorne, F.C., 733
 Czamanske, G.K., Sisson, T.W., Campbell, J.L., Teesdale, W.J.: Micro-PIXE analysis of silicate reference standards, 893
 Dai, Y., Harlow, G.E., McGhie, A.R.: Poldervaartite, $\text{Ca}(\text{Ca}_{0.5}\text{Mn}_{0.5})(\text{SiO}_3\text{OH})(\text{OH})$, a new acid nesosilicate from the Kalahari manganese field, South Africa: Crystal structure and description, 1082
 Della Ventura, G., Robert, J.-L., Bény, J.-M., Raudsepp, M., Hawthorne, F.C.: The OH-F substitution in Ti-rich potassium richterite: Rietveld structure refinement and FTIR and micro-Raman spectroscopic studies of synthetic amphiboles in the system $\text{K}_2\text{O}-\text{Na}_2\text{O}-\text{CaO}-\text{MgO}-\text{SiO}_2-\text{TiO}_2-\text{H}_2\text{O}-\text{HF}$, 980
 Della Ventura, G., Robert, J.-L., Raudsepp, M., Hawthorne, F.C.: Site occupancies in monoclinic amphiboles: Rietveld structure refinement of synthetic nickel magnesium cobalt potassium richterite, 633
 Dingwell, D.B., Knoche, R., Webb, S.L.: The effect of F on the density of haplogranite melt, 325
 Dogan, A.U. *see* Senderov, E., 565
 Dollase, W.A., Ross, C.R., II: Crystal structures of the body-centered tetragonal tectosilicates: $\text{K}_{1.14}\text{Mg}_{0.57}\text{Si}_{1.43}\text{O}_4$, $\text{K}_{1.10}\text{Zn}_{0.55}\text{Si}_{1.45}\text{O}_4$, and $\text{K}_{1.11}\text{Fe}_{1.11}^3\text{Si}_{0.89}\text{O}_4$, 627
 Doukhan, J.-C. *see* Doukhan, N., 1246
 Doukhan, N., Doukhan, J.-C., Ingrin, J., Jaoul, O., Raterron, P.: Early partial melting in pyroxenes, 1246
 Dove, M.T., Cool, T., Palmer, D.C., Putnis, A., Salje, E.K.H., Winkler, B.: On the role of Al-Si ordering in the cubic-tetragonal phase transition of leucite, 486
 Downs, R.T. *see* Hazen, R.M., 1320
 Downs, R.T., Bartelmehs, K.L., Gibbs, G.V., Boisen, M.B., Jr.: Interactive software for calculating and displaying X-ray or neutron powder diffractometer patterns of crystalline materials, 1104
 Dubru, M. *see* Raimbault, L., 1275
 Duddy, I.R. *see* Green, P.F., 441
 Dunbar, N.W., Kyle, P.R.: Lack of volatile gradient in the Taupo plinian-ignimbrite transition: Evidence from melt inclusion analysis, 612
 Dungan, M.A. *see* Zhang, M., 1056
 Durben, D.J., McMillan, P.F., Wolf, G.H.: Raman study of the high-pressure behavior of forsterite (Mg_2SiO_4) crystal and glass, 1143
 Dyar, M.D.: Mössbauer spectroscopy of tetrahedral Fe^{3+} in trioctahedral micas—Discussion, 665
 Dyar, M.D. *see* Holdaway, M.J., 56
 Dyar, M.D. *see* O'Hanley, D.S., 391, 844 [erratum]
 Dyar, M.D., Mackwell, S.J., McGuire, A.V., Cross, L.R., Robertson, J.D.: Crystal chemistry of Fe^{3+} and H^+ in mantle kaersutite: Implications for mantle metasomatism, 968
 Eby, R.K. *see* Hawthorne, F.C., 649
 Edgar, A.D., Charbonneau, H.E.: Melting experiments on a SiO_2 -poor, CaO-rich aphanitic kimberlite from 5–10 GPa and their bearing on sources of kimberlite magmas, 132
 Edge, R. *see* Severance, K., 724
 Eggleston, C.M., Hochella, M.F., Jr.: Tunneling spectroscopy applied to PbS (001) surfaces: Fresh surfaces, oxidation, and sorption of aqueous Au, 877
 Elphick, S.C. *see* Rubie, D.C., 574
 Elsenheimer, D. *see* Kohn, M.J., 988
 Elston, W.E.: Memorial of Douglas G. Brookins, 1936–1991, 870
 Ercit, T.S. *see* Grice, J.D., 433
 Erd, R.C. *see* Voncken, J.H.L., 204
 Ernst, W.G.: Presentation of the Roebling Medal of the Mineralogical Society of America for 1992 to Hatten S. Yoder, Jr., 850
 Evans, H.T., Jr. *see* Milton, C., 437
 Ewing, R.C. *see* Warner, J.K., 419
 Finger, L.W. *see* Hazen, R.M., 1320, 1336
 Fisher, G.W.: An improved method for algebraic analysis of metamorphic mineral assemblages, 1257
 Fisher, G.W. *see* Hewitt, D.A., 860
 Fleet, M.E., Angeli, N., Pan, Y.: Oriented chlorite lamellae in chromite from the Pedra Branca Mafic-Ultramafic Complex, Ceará, Brazil, 68
 Florence, F.P., Spear, F.S.: Influences of reaction history and chemical diffusion on P - T calculations for staurolite schists from the Littleton Formation, northwestern New Hampshire, 345

- Fogel, R.A. *see* Mathez, E.A., 753
 Foord, E.E. *see* Brownfield, M.E., 653
 Fram, M.S. *see* Longhi, J., 1016
 Frantz, J.D. *see* Mysen, B.O., 699
 Freed, R.L., Rouse, R.C., Peacor, D.R.: Ribbeite, a second example of edge-sharing silicate tetrahedra in the leucophoenicite group, 190
 Frisia, S. *see* Wenk, H.-R., 769
- Gaines, R.V. *see* Swihart, G.H., 835
 Ganguly, J., Cheng, W., O'Neill, H.St.C.: Syntheses, volume, and structural changes of garnets in the pyrope-grossular join: Implications for stability and mixing properties, 583
 García-Casco, A., Sánchez-Navas, A., Torres-Roldán, R.L.: Disequilibrium decomposition and breakdown of muscovite in high *P-T* gneisses, Betic alpine belt (southern Spain), 158
 Gasparik, T. *see* Wang, Y., 1165
 Ghose, S. *see* Shau, Y.-H., 96
 Gibbs, G.V. *see* Downs, R.T., 1104
 Gillet, P.: Stability of magnesite (MgCO₃) at mantle pressure and temperature conditions: A Raman spectroscopic study, 1328
 Graham, C.M. *see* Pawley, A.R., 23
 Greaves, G.N. *see* Henderson, C.M.B., 477
 Green, P.F., Laslett, G.M., Duddy, I.R.: Mechanisms and kinetics of apatite fission-track annealing—Discussion, 441
 Grew, E.S. *see* Jambor, J.L., 233, 672
 Grew, E.S. *see* Van Derveer, D.G., 195
 Grice, J.D. *see* MacDonald, D.J., 1299
 Grice, J.D., Ercit, T.S., Hawthorne, F.C.: Povondraite, a redefinition of the tourmaline ferridravite, 433
 Gudmundsson, G., Holloway, J.R.: Activity-composition relationships in the system Fe-Pt at 1300 and 1400 °C and at 1 atm and 20 kbar, 178
 Guggenheim, S.: Report of the Secretary for 1992, 858
 Guggenheim, S. *see* Bai, T.-B., 1208
 Guggenheim, S. *see* Nelson, D.O., 1197
 Gunst, R.F. *see* Holdaway, M.J., 56
 Guo, Q. *see* Montana, A., 1135
- Hafner, S.S. *see* Lin, C., 8
 Haggerty, S.E. *see* Vlassopoulos, D., 1181
 Halden, N.M., Hawthorne, F.C.: The fractal geometry of oscillatory zoning in crystals: Application to zircon, 1113
 Hames, W.E., Menard, T.: Fluid-assisted modification of garnet composition along rims, cracks, and mineral inclusion boundaries in samples of amphibolite facies schists, 338
 Harlov, D.E., Newton, R.C.: Reversal of the metastable kyanite + corundum + quartz and andalusite + corundum + quartz equilibria and the enthalpy of formation of kyanite and andalusite, 594
 Harlow, G.E. *see* Dai, Y., 1082
 Hawthorne, F.C. *see* Burdett, J.K., 884
 Hawthorne, F.C. *see* Burns, P.C., 187
 Hawthorne, F.C. *see* Della Ventura, G., 633, 980
 Hawthorne, F.C. *see* Grice, J.D., 433
 Hawthorne, F.C. *see* Halden, N.M., 1113
 Hawthorne, F.C. *see* MacDonald, D.J., 1299
 Hawthorne, F.C. *see* Oberti, R., 746
 Hawthorne, F.C., Kimata, M., Eby, R.K.: The crystal structure of spangolite, a complex copper sulfate sheet mineral, 649
 Hawthorne, F.C., MacDonald, D.J., Burns, P.C.: Reassignment of cation site-occupancies in tourmaline: Al-Mg disorder in the crystal structure of dravite, 265
 Hawthorne, F.C., Ungaretti, L., Oberti, R., Bottazzi, P., Czamanske, G.K.: Li: An important component in igneous alkali amphiboles, 733
 Hazen, R.M. *see* Zhang, J., 493
 Hazen, R.M., Downs, R.T., Finger, L.W., Ko, J.: Crystal chemistry of ferromagnesian silicate spinels: Evidence for Mg-Si disorder, 1320
 Hazen, R.M., Finger, L.W., Ko, J.: Effects of pressure on Mg-Fe ordering in orthopyroxene synthesized at 11.3 GPa and 1600 °C, 1336
 Heinrich, W.: Fluid infiltration through metachert layers at the contact aureole of the Bufa del Diente intrusion, northeast Mexico: Implications for wollastonite formation and fluid immiscibility, 804
 Helz, R.T.: Report of the Treasurer for 1992, 859
 Helz, R.T. *see* Hewitt, D.A., 860
 Henderson, C.M.B., Charnock, J.M., Smith, J.V., Greaves, G.N.: X-ray absorption spectroscopy of Fe, Mn, Zn, and Ti structural environments in staurolite, 477
 Hewitt, D.A., Fisher, G.W., Helz, R.T., Rumble, D., Stout, J.H.: Report of the Financial Advisory Committee for 1992, 860
 Hinkley, T.K. *see* Meeker, G.P., 873
 Hochella, M.F., Jr. *see* Eggleston, C.M., 877
 Hofmeister, A.M. *see* McAloon, B.P., 957
 Holdaway, M.J., Gunst, R.F., Mukhopadhyay, B., Dyar, M.D.: Staurolite end-member molar volumes determined from unit-cell measurements of natural specimens, 56
 Holdaway, M.J., Mukhopadhyay, B.: A reevaluation of the stability relations of andalusite: Thermochemical data and phase diagram for the aluminum silicates, 298
 Holdaway, M.J., Mukhopadhyay, B.: Geothermobarometry in pelitic schists: A rapidly evolving field, 681
 Holland, T. *see* Powell, R., 107, 1174

- Holloway, J.R. *see* Gudmundsson, G., 178
- Holtstam, D., Norrestam, R.: Lindqvistite, $Pb_2MeFe_{16}O_{27}$, a novel hexagonal ferrite mineral from Jakobsberg, Filipstad, Sweden, 1304
- Howard, D.G. *see* Boggs, R.C., 822
- Hughes, J.M. *see* Ni, Y., 415
- Humphreys, H.C.: Metamorphic evolution of amphibole-bearing aluminous gneisses from the Eastern Namaqua Province, South Africa, 1041
- Ingrin, J. *see* Doukhan, N., 1246
- Jambor, J.L., Burke, E.A.J.: New mineral names, 845
- Jambor, J.L., Burke, E.A.J., Grew, E.S., Puziewicz, J.: New mineral names, 672
- Jambor, J.L., Grew, E.S.: New mineral names, 233
- Jambor, J.L., Puziewicz, J.: New mineral names, 450, 1108
- Jambor, J.L., Vanko, D.A.: New mineral names, 1314
- Jansen, J.B.H. *see* Voncken, J.H.L., 204
- Jaoul, O. *see* Doukhan, N., 1246
- Jeanloz, R. *see* O'Neill, B., 1332
- Jiang, W.-T., Peacor, D.R.: Formation and modification of metastable intermediate sodium potassium mica, paragonite, and muscovite in hydrothermally altered metabasites from northern Wales, 782
- Johnson, M.C., Walker, D.: Brucite $[Mg(OH)_2]$ dehydration and the molar volume of H_2O to 15 GPa, 271
- Johnston, A.D. *see* Patiño Douce, A.E., 113, 826 [erratum]
- Karlsson, H.R., Clayton, R.N.: Analcime phenocrysts in igneous rocks: Primary or secondary?—Reply, 230
- Keppler, H., Bagdassarov, N.S.: High-temperature FTIR spectra of H_2O in rhyolite melt to 1300 °C, 1324
- Kikuchi, M., Syono, Y., Velde, B.: Shock wave effects on kaolinite and other clays, 904
- Kim, Y.J. *see* Xiao, Y., 241
- Kimata, M. *see* Hawthorne, F.C., 649
- Kirkpatrick, R.J. *see* Xiao, Y., 241
- Kisch, H.J. *see* van den Kerkhof, A.M., 220
- Klein, G.L. *see* Boggs, R.C., 822
- Knittle, E., Williams, Q.: High-pressure Raman spectroscopy of $ZrSiO_4$: Observation of the zircon to scheelite transition at 300 K, 245
- Knoche, R. *see* Dingwell, D.B., 325
- Ko, J. *see* Hazen, R.M., 1320, 1336
- Ko, J. *see* Zhang, J., 493
- Kohn, M.J., Valley, J.W., Elsenheimer, D., Spicuzza, M.J.: O isotope zoning in garnet and staurolite: Evidence for closed-system mineral growth during regional metamorphism, 988
- Kolisnik, A.M. *see* Singer, B.S., 143
- Koster van Groos, A.F. *see* Bai, T.-B., 1208
- Kotzer, T.G., Kyser, T.K.: O, U, and Pb isotopic and chemical variations in uraninite: Implications for determining the temporal and fluid history of ancient terrains, 1262
- Kubicki, J.D., Sykes, D.: Molecular orbital calculations on $H_6Si_2O_7$ with a variable Si-O-Si angle: Implications for the high-pressure vibrational spectra of silicate glasses, 253
- Kunz, M. *see* Armbruster, T., 1088
- Kuriyama, J. *see* Miyawaki, R., 425
- Kyle, P.R. *see* Dunbar, N.W., 612
- Kyser, T.K. *see* Ansdell, K.M., 36
- Kyser, T.K. *see* Kotzer, T.G., 1262
- Lalonde, A.E. *see* Rancourt, D.G., 1
- Laslett, G.M. *see* Green, P.F., 441
- Lawrence, V. *see* Bohlen, S.R., 861
- Ledbetter, H. *see* Balzar, D., 1192
- Liebermann, R.C. *see* Wang, Y., 1165
- Lin, C., Zhang, L., Hafner, S.S.: Local electronic states of Fe^{2+} ions in orthopyroxene, 8
- Longhi, J., Fram, M.S., Vander Auwera, J., Montieith, J.N.: Pressure effects, kinetics, and rheology of anorthositic and related magmas, 1016
- MacDonald, D.J. *see* Hawthorne, F.C., 265
- MacDonald, D.J., Hawthorne, F.C., Grice, J.D.: Foitite, $\square[Fe_2^{2+}(Al,Fe^{3+})]Al_6Si_6O_{18}(BO_3)_3(OH)_4$, a new alkali-deficient tourmaline: Description and crystal structure, 1299
- Mackwell, S.J. *see* Dyar, M.D., 968
- Maggiore, C. *see* Mathez, E.A., 753
- Mariano, A.N. *see* Ni, Y., 415
- Martin, R.F. *see* Vali, H., 1217
- Mather, B.: Memorial of Katharine Mather, 1916–1991, 239
- Mathez, E.A., Blacic, J.D., Maggiore, C., Mitchell, T.E., Fogel, R.A.: The determination of the O content of diamond by microactivation, 753
- McAloon, B.P., Hofmeister, A.M.: Single-crystal absorption and reflection infrared spectroscopy of birefringent grossular-andradite garnets, 957
- McCammon, C.A. *see* O'Neill, H.St.C., 456
- McDonald, A.M. *see* Rancourt, D.G., 1
- McGee, J.J. *see* Milton, C., 437
- McGhie, A.R. *see* Dai, Y., 1082
- McGuire, A.V. *see* Dyar, M.D., 968
- McMillan, P.F. *see* Durben, D.J., 1143
- Medenbach, O. *see* Wunder, B., 285
- Meeker, G.P., Hinkley, T.K.: The structure and composition of microspheres from the Kilauea volcano, Hawaii, 873
- Meisheng, H. *see* Wenk, H.-R., 769

- Menard, T. *see* Hames, W.E., 338
- Milton, C., McGee, J.J., Evans, H.T., Jr.: Mahlmoodite, $\text{FeZr}(\text{PO}_4)_2 \cdot 4\text{H}_2\text{O}$, a new iron zirconium phosphate mineral from Wilson Springs, Arkansas, 437
- Mineeva, R.M. *see* Petrov, I., 500
- Mitchell, T.E. *see* Mathez, E.A., 753
- Miyawaki, R., Kuriyama, J., Nakai, I.: The redefinition of tengerite-(Y), $\text{Y}_2(\text{CO}_3)_3 \cdot 2-3\text{H}_2\text{O}$, and its crystal structure, 425
- Mohanan, K., Sharma, S.K., Bishop, F.C.: A Raman spectral study of forsterite-monticellite solid solutions, 42
- Molin, G.M. *see* Sykes-Nord, J.A., 921
- Montana, A., Guo, Q., Boettcher, S., White, B.S., Brearley, M.: Xe and Ar in high-pressure silicate liquids, 1135
- Montieth, J.N. *see* Longhi, J., 1016
- Morgan, G.B., VI *see* Pasteris, J.D., 216
- Morteani, G. *see* Vali, H., 1217
- Mukhopadhyay, B. *see* Holdaway, M.J., 56, 298, 681
- Mumme, W.G. *see* Nickel, E.H., 819
- Murakami, T., Sato, T., Watanabe, T.: Microstructure of interstratified illite/smectite at 123 K: A new method for HRTEM examination, 465
- Myers, J.D. *see* Singer, B.S., 143
- Mysen, B.O., Frantz, J.D.: Structure of silicate melts at high temperature: In-situ measurements in the system BaO-SiO_2 to 1669 °C, 699
- Nakai, I. *see* Miyawaki, R., 425
- Nash, W.P.: Fluorine iron biotite from the Honeycomb Hills rhyolite, Utah: The halogen record of decompression in a silicic magma, 1031
- Navrotsky, A. *see* Brown, N.E., 941
- Navrotsky, A. *see* Pawley, A.R., 23
- Navrotsky, A. *see* Senderov, E., 565
- Nekvasil, H., Carroll, W.J.: Experimental constraints on the high-temperature termination of the anhydrous 2 feldspar + L curve in the feldspar system at 11.3 kbar, 601
- Nelson, D.O., Guggenheim, S.: Inferred limitations to the oxidation of Fe in chlorite: A high-temperature single-crystal X-ray study, 1197
- Newton, R.C. *see* Harlov, D.E., 594
- Nguyen, J.H. *see* O'Neill, B., 1332
- Ni, Y., Hughes, J.M., Mariano, A.N.: The atomic arrangement of bastnäsite-(Ce), $\text{Ce}(\text{CO}_3)\text{F}$, and structural elements of synchysite-(Ce), röntgenite-(Ce), and parsite-(Ce), 415
- Nickel, E.H.: Standardization of polytype suffixes, 1313
- Nickel, E.H., Robinson, B.W., Mumme, W.G.: Widgimoolthalite: The new Ni analogue of hydromagnesite from Western Australia, 819
- Nielson, J.E., Wilshire, H.G.: Magma transport and metasomatism in the mantle: A critical review of current geochemical models, 1117
- Nord, G.L., Jr. *see* Brown, N.E., 941
- Norrestam, R. *see* Holtstam, D., 1304
- Oberhänsli, R. *see* Armbruster, T., 1088
- Oberti, R. *see* Hawthorne, F.C., 733
- Oberti, R., Ungaretti, L., Cannillo, E., Hawthorne, F.C.: The mechanism of Cl incorporation in amphibole, 746
- Oberti, R., Ungaretti, L., Tlili, A., Smith, D.C., Robert, J.-L.: The crystal structure of preiswerkite, 1290
- O'Hanley, D.S., Dyar, M.D.: The composition of lizardite 1T and the formation of magnetite in serpentinites, 391, 844 [erratum]
- O'Neill, B., Nguyen, J.H., Jeanloz, R.: Rapid computer analysis of X-ray diffraction films, 1332
- O'Neill, H.St.C. *see* Ganguly, J., 583
- O'Neill, H.St.C. *see* Woodland, A.B., 1002
- O'Neill, H.St.C., McCammon, C.A., Canil, D., Rubie, D.C., Ross, C.R., II, Seifert, F.: Mössbauer spectroscopy of mantle transition zone phases and determination of minimum Fe^{3+} content, 456
- Otten, M.T.: High-resolution transmission electron microscopy of polysomatism and stacking defects in antigorite, 75
- Palmer, D.C. *see* Dove, M.T., 486
- Pan, Y. *see* Fleet, M.E., 68
- Papike, J.J. *see* Spilde, M.N., 1066
- Pasteris, J.D. *see* Wopenka, B., 533
- Pasteris, J.D., Seitz, J.C., Morgan, G.B., VI, Wopenka, B.: CH_4 -rich inclusions from quartz veins in the Valley-and-Ridge province and the anthracite fields of the Pennsylvania Appalachians—Discussion, 216
- Patiño Douce, A.E., Johnston, A.D., Rice, J.M.: Octahedral excess mixing properties in biotite: A working model with applications to geobarometry and geothermometry, 113, 826 [erratum]
- Pawley, A.R., Graham, C.M., Navrotsky, A.: Tremolite-richterite amphiboles: Synthesis, compositional and structural characterization, and thermochemistry, 23
- Peacor, D.R. *see* Bohlen, S.R., 861
- Peacor, D.R. *see* Freed, R.L., 190
- Peacor, D.R. *see* Jiang, W.-T., 782
- Peacor, D.R. *see* Shau, Y.-H., 96
- Pearce, T.H.: Analcime phenocrysts in igneous rocks: Primary or secondary?—Discussion, 225
- Pearce, T.H. *see* Singer, B.S., 143
- Petrov, I., Mineeva, R.M., Bershov, L.V., Agel, A.: EPR of $[\text{Pb-Pb}]^{3+}$ mixed valence pairs in amazonite-type microcline, 500
- Phakey, P.P. *see* Shau, Y.-H., 96
- Pierson, M.L. *see* Stormer, J.C., Jr., 641
- Ping, J.Y. *see* Rancourt, D.G., 1

- Post, J.E. *see* Bish, D.L., 932
- Potter, J.M. *see* Rosenbauer, R.J., 1286
- Powell, R., Holland, T.: On the formulation of simple mixing models for complex phases, 1174
- Powell, R., Holland, T.: The applicability of least squares in the extraction of thermodynamic data from experimentally bracketed mineral equilibria, 107
- Prewitt, C.T. *see* Zhang, J., 493
- Pring, A. *see* Birch, W.D., 827
- Pring, A., Williams, T., Withers, R.: Structural modulation in sartorite: An electron microscope study, 619
- Putnis, A. *see* Dove, M.T., 486
- Puziewicz, J. *see* Jambor, J.L., 450, 672, 1108
- Raimbault, L., Baumer, A., Dubru, M., Benkerrou, C., Croze, V., Zahm, A.: REE fractionation between scheelite and apatite in hydrothermal conditions, 1275
- Rancourt, D.G.: Mössbauer spectroscopy of tetrahedral Fe³⁺ in trioctahedral micas—Reply, 669
- Rancourt, D.G. *see* Bai, T.-B., 1208
- Rancourt, D.G., McDonald, A.M., Lalonde, A.E., Ping, J.Y.: Mössbauer absorber thicknesses for accurate site populations in Fe-bearing minerals, 1
- Raterron, P. *see* Doukhan, N., 1246
- Raudsepp, M. *see* Della Ventura, G., 633, 980
- Reller, A. *see* Birch, W.D., 827
- Rice, J.M. *see* Patiño Douce, A.E., 113, 826 [erratum]
- Righter, K., Carmichael, I.S.E.: Mega-xenocrysts in alkali olivine basalts: Fragments of disrupted mantle assemblages, 1230
- Rinaldi, R. *see* Artioli, G., 762
- Robert, J.-L. *see* Della Ventura, G., 633, 980
- Robert, J.-L. *see* Oberti, R., 1290
- Robertson, J.D. *see* Dyar, M.D., 968
- Robinson, B.W. *see* Nickel, E.H., 819
- Robinson, D., Bevins, R.E., Rowbotham, G.: The characterization of mafic phyllosilicates in low-grade metabasalts from eastern North Greenland, 377
- Robinson, P.D. *see* Wilson, J.R., 1096
- Rosenbauer, R.J., Bischoff, J.L., Potter, J.M.: A flexible Au-Ir cell with quick assembly for hydrothermal experiments, 1286
- Ross, C.R., II *see* Dollase, W.A., 627
- Ross, C.R., II *see* O'Neill, H.St.C., 456
- Ross, C.R., II *see* Rubie, D.C., 574
- Ross, C.R., II *see* Wunder, B., 285
- Rossmann, G.R. *see* Cho, H., 1149
- Rossmann, G.R. *see* Vlassopoulos, D., 1181
- Rouse, R.C. *see* Freed, R.L., 190
- Rowbotham, G. *see* Robinson, D., 377
- Rubie, D.C. *see* O'Neill, H.St.C., 456
- Rubie, D.C. *see* Wunder, B., 285
- Rubie, D.C., Ross, C.R., II, Carroll, M.R., Elphick, S.C.: Oxygen self-diffusion in Na₂Si₄O₉ liquid up to 10 GPa and estimation of high-pressure melt viscosities, 574
- Rumble, D. *see* Hewitt, D.A., 860
- Saccoccia, P.J., Seyfried, W.E., Jr.: A resolution of discrepant thermodynamic properties for chamosite retrieved from experimental and empirical techniques, 607
- Salje, E.K.H. *see* Dove, M.T., 486
- Sánchez-Navas, A. *see* García-Casco, A., 158
- Sato, T. *see* Murakami, T., 465
- Schlemper, E.O. *see* Swihart, G.H., 835
- Schmalle, H.W. *see* Birch, W.D., 827
- Schreyer, W. *see* Wunder, B., 285
- Sclar, C.B. *see* Tettenhorst, R., 679
- Seifert, F. *see* O'Neill, H.St.C., 456
- Seifert, F. *see* Wunder, B., 285
- Seitz, J.C. *see* Pasteris, J.D., 216
- Senderov, E., Dogan, A.U., Navrotsky, A.: Non-stoichiometry of magnetite-ulvöspinel solid solutions quenched from 1300 °C, 565
- Sen Gupta, P.K. *see* Swihart, G.H., 835
- Sen Gupta, P.K. *see* Van Derveer, D.G., 195
- Sen Gupta, P.K. *see* Wilson, J.R., 1096
- Severance, K., Edge, R., Sharp, W.E.: Spin glass behavior in a single crystal of chromite, 724
- Seyfried, W.E., Jr. *see* Saccoccia, P.J., 607
- Sharma, S.K. *see* Mohanan, K., 42
- Sharma, S.K. *see* Wang, S.Y., 469
- Sharp, T.G., Buseck, P.R.: The distribution of Ag and Sb in galena: Inclusions versus solid solution, 85
- Sharp, W.E. *see* Severance, K., 724
- Shau, Y.-H., Peacor, D.R., Ghose, S., Phakey, P.P.: Submicroscopic exsolution in Mn-bearing alkali amphiboles from Tirodi, Maharashtra, India, 96
- Shen, A.H., Bassett, W.A., Chou, I.-M.: The α - β quartz transition at high temperatures and pressures in a diamond-anvil cell by laser interferometry, 694
- Singer, B.S., Pearce, T.H., Kolisnik, A.M., Myers, J.D.: Plagioclase zoning in mid-Pleistocene lavas from the Seguam volcanic center, central Aleutian arc, Alaska, 143
- Sisson, T.W. *see* Czamanske, G.K., 893
- Smelik, E.A., Veblen, D.R.: A transmission and analytical electron microscope study of exsolution microstructures and mechanisms in the orthoamphiboles anthophyllite and gedrite, 511
- Smith, D.C. *see* Oberti, R., 1290
- Smith, J.V. *see* Boggs, R.C., 822
- Smith, J.V. *see* Henderson, C.M.B., 477
- Soto, J.I.: PTMAFIC: Software for thermobarometry and activity calculations with mafic and ultramafic assemblages, 840

- Spear, F.S. *see* Florence, F.P., 345
- Spera, F.J. *see* Stein, D.J., 710
- Spicuzza, M.J. *see* Kohn, M.J., 988
- Spilde, M.N., Brearley, A.J., Papike, J.J.: Alteration of plagioclase and pyroxene phenocrysts in a fissure fumarole, Valley of Ten Thousand Smokes, Alaska, 1066
- Ståhl, K. *see* Artioli, G., 762
- Stebbins, J.F.: Acceptance of the Mineralogical Society of America Award for 1992, 856
- Stebbins, J.F., Burnham, C.W., Bish, D.L.: Tetrahedral disorder in fibrolitic sillimanite: Comparison of ^{29}Si NMR and neutron diffraction data, 461
- Stein, D.J., Spera, F.J.: Experimental rheometry of melts and supercooled liquids in the system $\text{NaAlSi}_3\text{O}_8\text{-SiO}_2$: Implications for structure and dynamics, 710
- Stormer, J.C., Jr., Pierson, M.L., Tacker, R.C.: Variation of F and Cl X-ray intensity due to anisotropic diffusion in apatite during electron microprobe analysis, 641
- Stout, J.H. *see* Hewitt, D.A., 860
- Suddaby, P. *see* Zhang, M., 1056
- Sutley, S.J. *see* Brownfield, M.E., 653
- Swihart, G.H. *see* Van Derveer, D.G., 195
- Swihart, G.H., Sen Gupta, P.K., Schlemper, E.O., Back, M.E., Gaines, R.V.: The crystal structure of moctezumite $[\text{PbUO}_2](\text{TeO}_3)_2$, 835
- Sykes, D. *see* Kubicki, J.D., 253
- Sykes-Nord, J.A., Molin, G.M.: Mg-Fe order-disorder reaction in Fe-rich orthopyroxene: Structural variations and kinetics, 921
- Syono, Y. *see* Kikuchi, M., 904
- Tacker, R.C. *see* Stormer, J.C., Jr., 641
- Teesdale, W.J. *see* Czamanske, G.K., 893
- Tettenhorst, R., Sclar, C.B.: Memorial of Duncan McConnell, 1909–1991, 679
- Thompson, R.N. *see* Zhang, M., 1056
- Tlili, A. *see* Oberti, R., 1290
- Torres-Roldán, R.L. *see* García-Casco, A., 158
- Tossell, J.A.: A theoretical study of the molecular basis of the Al avoidance rule and of the spectral characteristics of Al-O-Al linkages, 911
- Tossell, J.A.: Theoretical studies of the speciation of Al in F-bearing aluminosilicate glasses, 16
- Tsipursky, S.J., Buseck, P.R.: Structure of magnesian calcite from sea urchins, 775
- Ungaretti, L. *see* Hawthorne, F.C., 733
- Ungaretti, L. *see* Oberti, R., 746, 1290
- Vali, H., Martin, R.F., Amaratidis, G., Morteani, G.: Smectite-group minerals in deep-sea sediments: Monomineralic solid-solutions or multiphase mixtures?, 1217
- Valley, J.W. *see* Kohn, M.J., 988
- van den Kerkhof, A.M., Kisch, H.J.: CH_4 -rich inclusions from quartz veins in the Valley-and-Ridge province and the anthracite fields of the Pennsylvania Appalachians—Reply, 220
- Vander Auwera, J. *see* Longhi, J., 1016
- van der Eerden, A.M.J. *see* Voncken, J.H.L., 204
- Van Derveer, D.G., Swihart, G.H., Sen Gupta, P.K., Grew, E.S.: Cation occupancies in serendibite: A crystal structure study, 195
- Vanko, D.A. *see* Jambor, J.L., 1314
- van Roermund, H.L.M. *see* Voncken, J.H.L., 204
- Vassilikou-Dova, A.B.: EPR-determined site distributions of low concentrations of transition-metal ions in minerals: Review and predictions, 49
- Veblen, D.R. *see* Smelik, E.A., 511
- Velbel, M.A.: Formation of protective surface layers during silicate-mineral weathering under well-leached, oxidizing conditions, 405
- Velde, B. *see* Kikuchi, M., 904
- Vlassopoulos, D., Rossman, G.R., Haggerty, S.E.: Coupled substitution of H and minor elements in rutile and the implications of high OH contents in Nb- and Cr-rich rutile from the upper mantle, 1181
- Voncken, J.H.L., van Roermund, H.L.M., van der Eerden, A.M.J., Jansen, J.B.H., Erd, R.C.: Holotype buddingtonite: An ammonium feldspar without zeolitic H_2O , 204
- Walker, D. *see* Johnson, M.C., 271
- Wang, S.-J. *see* Bai, T.-B., 1208
- Wang, S.Y., Sharma, S.K., Cooney, T.F.: Micro-Raman and infrared spectral study of forsterite under high pressure, 469
- Wang, Y., Gasparik, T., Liebermann, R.C.: Modulated microstructure in synthetic majorite, 1165
- Warner, J.K., Ewing, R.C.: Crystal chemistry of samarskite, 419
- Warren, P.H.: A concise compilation of petrologic information on possibly pristine nonmare Moon rocks, 360
- Watanabe, T. *see* Murakami, T., 465
- Webb, S.L. *see* Dingwell, D.B., 325
- Wenk, H.-R., Meisheng, H., Frisia, S.: Partially disordered dolomite: Microstructural characterization of Abu Dhabi sabkha carbonates, 769
- White, B.S. *see* Montana, A., 1135
- Williams, Q. *see* Knittle, E., 245
- Williams, T. *see* Pring, A., 619
- Wilshire, H.G. *see* Nielson, J.E., 1117
- Wilson, J.R., Sen Gupta, P.K., Robinson, P.D., Criddle, A.J.: Fangite, Tl_3AsS_4 , a new thallium arsenic sulfosalt

- from the Mercur Au deposit, Utah, and revised optical data for gillulyite, 1096
- Winkler, B. *see* Dove, M.T., 486
- Withers, R. *see* Pring, A., 619
- Wolf, G.H. *see* Durben, D.J., 1143
- Wood, B. *see* Brodholt, J., 558
- Woodland, A.B., O'Neill, H.St.C.: Synthesis and stability of $\text{Fe}^{2+}\text{Fe}^{3+}\text{Si}_3\text{O}_{12}$ garnet and phase relations with $\text{Fe}_3\text{Al}_2\text{Si}_3\text{O}_{12}$ - $\text{Fe}^{2+}\text{Fe}^{3+}\text{Si}_3\text{O}_{12}$ solutions, 1002
- Wopenka, B. *see* Pasteris, J.D., 216
- Wopenka, B., Pasteris, J.D.: Structural characterization of kerogens to granulite-facies graphite: Applicability of Raman microprobe spectroscopy, 533
- Wunder, B., Rubie, D.C., Ross, C.R., II, Medenbach, O., Seifert, F., Schreyer, W.: Synthesis, stability, and properties of $\text{Al}_2\text{SiO}_4(\text{OH})_2$: A fully hydrated analogue of topaz, 285
- Xiao, Y., Kirkpatrick, R.J., Kim, Y.J.: Structural phase transitions of tridymite: A ^{29}Si MAS NMR investigation, 241
- Yoder, H.S., Jr.: Acceptance of the Roebling Medal of the Mineralogical Society of America for 1992, 851
- Zahm, A. *see* Raimbault, L., 1275
- Zanazzi, P.F. *see* Artioli, G., 762
- Zhang, J., Ko, J., Hazen, R.M., Prewitt, C.T.: High-pressure crystal chemistry of KAlSi_3O_8 hollandite, 493
- Zhang, L. *see* Lin, C., 8
- Zhang, M., Suddaby, P., Thompson, R.N., Dungan, M.A.: Barian titanian phlogopite from potassic lavas in northeast China: Chemistry, substitutions, and paragenesis, 1056