



American Mineralogist

Vol. 91, No. 10

An International Journal of Earth and Planetary Materials

October 2006

LETTERS

- 1703 Rietveld structure refinement of perovskite and post-perovskite phases of NaMgF_3 (Neighborite) at high pressures**
C. David Martin, Wilson A. Crichton, Haozhe Liu, Vitali Prakapenka, Jihua Chen, and John B. Parise

- 1707 Si vacancies in the 10-Å phase**
M.D. Welch, A.R. Pawley, S.E. Ashbrook, H.E. Mason, and B.L. Phillips

PLANETARY MATERIALS: FROM THE EARTH TO THE MOON AND BEYOND

- 1459 Preface to the Jim Papike special issue**
Charles Shearer, David Vaniman, and Ted Labotka
- 1461 Orbicular oxides in carbonatitic kimberlites**
Stephen E. Haggerty and Agnes Fung
- 1473 Fluid-mediated polymetamorphism related to Proterozoic collision of Archean Wyoming and Superior provinces in the Black Hills, South Dakota**
Peter I. Nabelek, Theodore C. Labotka, Thomas Helms, and Max Wilke
- 1488 Lithium isotopic systematics of granites and pegmatites from the Black Hills, South Dakota**
Fang-Zhen Teng, William F. McDonough, Roberta L. Rudnick, Richard J. Walker, and Mona-Liza C. Sirbescu
- 1499 Identifying the effects of petrologic processes in a closed basaltic system using trace-element concentrations in olivines and glasses: Implications for comparative planetology**
Justin J. Haggerty, Charles K. Shearer, David T. Vaniman, and Paul V. Burger

- 1509 Tectonic implications of diverse igneous blocks in Franciscan mélange, Northern California and southwestern Oregon**
Glenn J. MacPherson, Mario J. Giaramita, and Stephen Paul Phipps

- 1521 The petrogenesis of the Apollo 14 high-Al mare basalts**
Clive R. Neal and Georgiana Y. Kramer

- 1536 Experimental insights on crystal chemistry of high-Ti garnets from garnet-melt partitioning of rare-earth and high-field-strength elements**
Rachel E. Dwarzski, David S. Draper, Charles K. Shearer, and Carl B. Agee

- 1547 The atomic arrangement of merrillite from the Fra Mauro Formation, Apollo 14 lunar mission: The first structure of merrillite from the Moon**
John M. Hughes, Bradley L. Jolliff, and Mickey E. Gunter

- 1553 The behavior of Li and B in lunar mare basalts during crystallization, shock, and thermal metamorphism: Implications for volatile element contents of martian basalts**
J. Chaklader, C.K. Shearer, and L.E. Borg

- 1565 Pyroxene europium valence oxybarometer: Effects of pyroxene composition, melt composition, and crystallization kinetics**
C.K. Shearer, J.J. Papike, and J.M. Karner

- 1574 Comparative planetary mineralogy: Pyroxene major- and minor-element chemistry and partitioning of vanadium between pyroxene and melt in planetary basalts**
Jim Karner, J.J. Papike, and C.K. Shearer

- 1583 Crystal chemistry of lunar merrillite and comparison to other meteoritic and planetary suites of whitlockite and merrillite**
Bradley L. Jolliff, John M. Hughes,
John J. Freeman, and Ryan A. Zeigler
- 1596 An experimental study of trace-element partitioning between Ti-Al-clinopyroxene and melt: Equilibrium and kinetic effects including sector zoning**
Gary E. Lofgren, Gary R. Huss,
and G.J. Wasserburg
- 1607 Minor- and trace-element sector zoning in synthetic enstatite**
Craig S. Schwandt and Gordon A. McKay
- 1616 Insights into the redox history of the NWA 1068/1110 martian basalt from mineral equilibria and vanadium oxybarometry**
Christopher D.K. Herd
- 1628 Transformations of Mg- and Ca-sulfate hydrates in Mars regolith**
David T. Vaniman and Steve J. Chipera
- 1643 An experimental study of the oxidation state of vanadium in spinel and basaltic melt with implications for the origin of planetary basalt**
K. Richter, S.R. Sutton, M. Newville, L. Le,
C.S. Schwandt, H. Uchida, B. Lavina,
and R.T. Downs
- 1657 Valence state partitioning of vanadium between olivine-liquid: Estimates of the oxygen fugacity of Y980459 and application to other olivine-phyric martian basalts**
C.K. Shearer, G. McKay, J.J. Papike,
and J.M. Karner
- 1664 Identification of relict forsterite grains in forsterite-rich chondrules from the Mokoia CV3 carbonaceous chondrite**
Rhian H. Jones and E. Rae Carey
- 1675 Formation of spinel-, hibonite-rich inclusions found in CM2 carbonaceous chondrites**
Steven B. Simon, Lawrence Grossman,
Ian D. Hutcheon, Douglas L. Phinney,
Peter K. Weber, and Stewart J. Fallon
- 1688 Deep metastable eutectic condensation in Al-Fe-SiO-H₂-O₂ vapors: Implications for natural Fe-aluminosilicates**
Frans J.M. Rietmeijer, Joseph A. Nuth,
Pierre Rochette, Jannie Marfaing, Aurora Pun, and
James M. Karner
- ARTICLES**
- 1699 α -PbO₂-type nanophase of TiO₂ from coesite-bearing eclogite in the Dabie Mountains, China—Comment**
Jing Chen and Zhendong Fu
- 1701 α -PbO₂-type nanophase of TiO₂ from coesite-bearing eclogite in the Dabie Mountains, China—Reply**
Xiuling Wu, Dawei Meng, Yujing Han
- PRESENTATION OF THE DANA MEDAL 2006**
- 1711 Presentation of the Mineralogical Society of America Dana Medal for 2006 to Rodney C. Ewing**
Alexandra Navrotsky
- 1712 Acceptance of the Dana Medal of the Mineralogical Society of America for 2006**
Rodney C. Ewing
- 1714 BOOK REVIEW**