

**Publications of the Hawaii Institute of Geophysics and Planetology
University of Hawaii
1999**

1. **Benedix, G. K.**, et al. [**K. Keil**], 1999, Classification of ten new Nullarbor region meteorites, *Meteorit. Planet. Sci.*, 34, 813-815.
2. **Bevis, M.**, E. C. Kendrick, R. Smalley, Jr., T. Herring, J. Godoy, and F. Galban, 1999, Crustal motion north and south of the Arica deflection: Comparing recent geodetic results from Central Andes, *Geochem. Geophys. Geosy.*, 1, 1999GC000011.
3. Carlson, R. W., et al. [**T. McCord**], 1999, Hydrogen peroxide on Europa, *Science*, 283, 2062-2064.
4. Clarke, A., et al. [V. N. Kapustin, K. Moore, M. Litchy, and **B. Lienert**], 1999, Nucleation in the equatorial free troposphere: Favorable environments during PEM-tropics, *J. Geophys. Res.-Atmos.*, 104, D5, 5735-5744.
5. Cooney T. F., **Scott E. R. D.**, **Krot A. N.**, **Sharma S. K.** and **Yamaguchi A.** (1999) Vibrational spectroscopic study of minerals in the Martian meteorite ALH84001. *Amer. Mineralog.*, 1569-1576.
6. Cushing, J. A., et al. [**G. J. Taylor**, and **K. Keil**], 1999, The granulitic impactite suite: Impact melts and metamorphic breccias of the early lunar crust, *Meteorit. Planet. Sci.*, 34, 185-195.
7. DeHon, R., **P.J. Mouginis-Mark**, and E.E. Brick. Geologic map of the Galaxias Quadrangle (MTM 35217) of Mars. U. S. Geological Survey Misc. Map. I-2579, 1999.
8. Dobson, J., T. St. Pierre, H. G. Weiser, and **M. Fuller**, 1999, Changes in paroxysmal brainwave patterns of epileptics by weak-field magnetic stimulation, *Bioelectromagnetics*, 21, 94-99.
9. Fairall, C.W., et al. [**P. W. Hacker**], 1999, The legacy of COARE for technology and ocean-atmosphere observing capability, in *Proc. Conference on the TOGA Coupled Ocean-Atmosphere Response Experiment (COARE)*, Boulder, Colorado, USA, 7-14 July 1998; WCRP-107, January 1999, 116-138.
10. **Fanale, F. P.**, 1999, Mars: Atmosphere and volatile history, in *Encyclopedia Solar System*, 277-290.
11. **Fanale, F. P.**, et al. [J. C. Granahan, **T. B. McCord**, **G. B. Hansen**, **C. A. Hibbitts**, R. Carlson, D. Matson, A. Ocampo, L. Kamp, W. Smythe, F. Leader, R. Mahlman, R. Greeley, R. Sullivan, P. Geissler, C. Barth, A. Hendrix, B. Clark, P. Helfenstein, J. Veverka, M. J. S. Belton, K. Becker, T. Becker, and the Galileo NIMS, SSI, UVS Instruments Teams], 1999, Galileo's multiinstrument spectral view of Europa's surface composition, *Icarus*, 139, 179-188.
12. **Flynn, L. P.**, and **A. Harris.**, 1999, Real-time hazard mitigation using satellite data in proceedings of the Pecora 14/ land satellite information III conference, *publication title?*, (in press).
13. **Flynn, L. P.**, and **A. J. L. Harris**, 1999, High-spatial-resolution thermal remote sensing of active volcanic features using landsat and hyperspectral data, *Thermal Analysis of Active Volcanic Features*, (in press).

14. Frazer, L. N., S.-S. Fu, and **R. H. Wilkens**, 1999, Seabed sediment attenuation profiles from a movable sub-bottom acoustic vertical array, *J. Acoust. Soc. Am.*, 106, 1, 120-130.
15. **Fryer, G. J.**, and **P. Fryer**, 1999, Chapter 3, Geology, in Rapaport, M. (ed.), *Pacific Islands: Environment & Society*, Bess Press, 33-42.
16. **Fryer, P.**, C. G. Wheat, and M. J. Mottl, 1999, Mariana Blueschist mud volcanism: Implications for conditions within the subduction zone, *Geology*, 27, 2, 103-106.
17. **Fuller, M.**, J. Ali, S. Moss, B. Richter, and A. Mahfi, 1999, Paleomagnetism of Borneo and surrounding regions, *J. E. Asia Earth Sci.*, 17, 620-631.
18. Furuta, H., et al. [**L.-C. Ming**], 1999, Phase transitions in PbZrO under high pressure studied by Raman scattering, *J. Phys. Chem. Solids*, 60, 1, 65-67.
19. **Garcés, M.**, M. Iguchi, K. Ishihara, M. Morrissey, Y. Sudo, and T. Tsutsui, 1999, Infrasonic precursors to a Vulcanian eruption at Sakurajima volcano, Japan, *Geophys. Res. Lett.*, 26, 2537-2540.
20. **Gauldie, R. W.**, 1999, Ultrastructure of lamellae, mineral and matrix components of fish otolith twinned aragonite crystals: Implications for estimating age in fish, *Tissue Cell*, 31, 2, 138-153.
21. Glaze, L.S., L. Wilson, and **P.J. Mouginis-Mark**. Volcanic eruption plume top topography and heights as determined from photogrammetric analysis of satellite data. *J. Geophys. Res.* 104: 2989 – 3001, 1999.
22. Goodliffe, A., B. Taylor, and **F. Martinez**, 1999, Data report: Marine geophysical surveys of the Woodlark Basin region, in Taylor, B., et al. (eds.), *Proc. Ocean Drill. Prog. Init. Reports*, 180, Ocean Drill. Prog., College Station, TX, 1-20 [CD-ROM].
23. **Hacker, P.**, R. Lukas and P.J. Webster, 1999. A tropical Indian Ocean observing system for climate studies with focus on the Bay of Bengal sector. In: *International Conference on The Ocean Observing System For Climate, 18-22 October 1999, Saint-Raphael, France, Vol. 2*.
24. **Hansen, G. B.**, 1999, Control of the radioactive behavior of the Martian polar caps by surface CO ice: Evidence from Mars Global Surveyor measurements, *J. Geophys. Res.-Planet.*, 104, E7, 16, 471-16, 486.
25. **Harris, A. J. L.**, and **R. Wright**, 1999, Remote monitoring on Mount Erebus Volcano, Antarctica, using polar orbiters: Progress and prospects, *Int. J. Remote Sens.*, 20, 15-16, 3051-3071.
26. **Harris, A.**, et al. [**L. P. Flynn**, and **S. Sherman**], 1999, Mass flux measurements at active lava lakes: Implications for magma recycling, *J. Geophys. Res.-Sol. Ea.*, 104, B4, 7117-7136.
27. **Herrero-Bervera, E.**, and J. P. Valet, 1999, Paleosolar variation during sequential geomagnetic reversals from Hawaii, *Earth Planet. Sc. Lett.*, 171, 1, 139-148.
28. **Herrero-Bervera, E.**, and R. S. Coe, 1999, Transitional field behavior during the Gilbert-Gauss and lower mammoth reversals recorded in lavas from the Waianae Volcano, O'ahu, Hawaii, *J. Geophys. Res.-Sol. Ea.*, 104, B12, 29,157-29,173.

29. **Herrero-Bervera, E.**, et al., 1999, Detailed paleomagnetic study of two volcanic polarity transitions recorded in Eastern Iceland, *Phys. Earth Planet. In.*, 129, 2, 119-135.
30. **Hinrichs, J. L., P. G. Lucey**, M. S. Robinson, **A. Meibom**, and **A. N. Krot**, 1999, Implications of temperature dependent near-IR spectral properties of common minerals and meteorites for remote sensing of asteroids, *Geophys. Res. Lett.*, 26, 12, 1661-1664.
31. Johnson, J. R., et al. [**P. G. Lucey**], 1999, Estimated solar wind-implanted Helium-3 distribution on the moon, *Geophys. Res. Lett.*, 26, 3, 385-388.
32. Jonsson, S., et al. [**H. Garbeil, P. J. Mouginiis-Mark**, and S. K. Rowland], 1999, A shallow-dipping dike fed the 1995 flank eruption at Fernandina Volcano, Galapagos, observed by satellite radar interferometry, *Geophys. Res. Lett.*, 26, 8, 1077-1080.
33. **Keating, B.H.**, 1999, Nuclear testing in the Pacific from a geological prospective, in Terry, J. (ed.), *Climate and Environmental Changes in the Pacific*, University of the South Pacific, Fiji, Pacific Science Congress Proc., 113-144.
34. Kendrick, E. C., et al. [**M. Bevis**], 1999, Current rates of convergence across the Central Andes: Estimates from continuous GPS observations, *Geophys. Res. Lett.*, 26, 541-544.
35. Keszthelyi, L., A. S. McEwen, and **G. J. Taylor**, 1999, Revisiting the hypothesis of a mushy global magma ocean on Io, *Icarus*, 141, 415-419.
36. Kobayashi, Y., S. Endo, **L. C. Ming**, K. Deguchi, T. Ashida, and H. Fujishita, 1999, X-ray diffraction and dielectric measurements on PbZrO at high pressure: A phase transformation study, *J. Phys. Chem. Solids*, 60, 1, 57-64.
37. Kobayashi, Y., S. Endo, T. Ashida, K. Deguchi, **L. C. Ming**, T. Kikegawa, and G. Zou, 1999, KNbO under high pressure, *Korea Phys. Soc.*, 35, S1452-1456.
38. **Krot A. N.**, Brearley A. J., Ulyanov A. A., Biryukov V. V., Swindle T. D., **K. Keil**, Mittlefehldt D. W., **Scott E. R. D.**, Clayton R. N., and Mayeda T. K. (1999) Mineralogy, petrography and bulk chemical, I-Xe, and oxygen isotopic compositions of dark inclusions in the reduced CV3 chondrite Efremovka. *Meteorit. Planet. Sci.* **34**, 67-89.
39. Lefeuvre, O., W. Pang, **P. Zinin**, J. D. Comins, A. G. Every, G. A. D. Briggs, B. D. Zeller, and G. E. Thompson, 1999, Determination of the elastic properties of a barrier film on aluminum by Brillouin spectroscopy, *Thin Solid Films*, 350, 1-2, 53-58.
40. Lentz, R., **G. J. Taylor**, and A. H. Treiman., 1999, Formation of a martian pyroxenite: A comparative study of the nahklite meteorites and Theo's flow, *Meteorit. Planet. Sci.*, 34, (in press).
41. **Lienert, B. R., J. N. Porter, S. K. Sharma**, 1999, Real time analysis and display of scanning lidar scattering data, *Mar. Geod.*, 22, 259-265.
42. Livingston, R. A., **M. H. Manghnani**, Y. Wang, and **P. Zinin**, 1999, Detection of cracks and interfacial transition zone in concrete by acoustic microscopy, in Katoh, M., and B. B. Djordjevic (eds.), *The Second U.S.-Japan Symp. Advances NDT, Proc. Int. Symp.*, The Japanese Society for Non-Destructive Inspection, Tokyo, Japan, 136-141.

43. Livingston, R. A., **M. Manghnani** and M. Prasad (1999). Characterization of Portland cement concrete microstructure using the scanning acoustic microscope. *Cement and Concrete Research* **29**(2): 287-291
44. **Manghnani, M. H.**, X. Zhang, S. Tkachev, **P. Zinin**, H. Feldermann, C. Ronning, H. Hofsäuss, and A. G. Every], 1999, Elastic properties of hard cBN film by surface Brillouin scattering, in Green, R. E., Jr. (ed.), *Nondestructive Characterization of Materials IX*, American Institute of Physics, New York, 315-320.
45. **Martinez, F., B.** Taylor, and A. Goodliffe, 1999, Contrasting styles of seafloor spreading in the Woodlark Basin: Indications of rift-induced secondary mantle convection, *J. Geophys. Res.*, 104, 12, 909-12, 926.
46. **McCord, T. B.**, et al. [**G. B. Hanson**, R. W. Carlson, **F. P. Fanale**, D. L. Matson, T. V. Johnson, W. D. Smythe, J. K. Crowley, P. D. Martin, A. Ocampo, **C. A. Hibbitts**, J. C. Granahan, and the NIMS Team], 1999, Hydrated minerals on Europa's surface from the Galileo NIMS investigation, *J. Geophys. Res.-Planet.*, 104, E5, 11,827-11,851.
47. **McCord, T. B.**, **G. B. Hansen**, J. H. Shirley, and R. W. Carlson, 1999, Discussion of the 1.04-um water ice absorption band in the Europa NIMS spectra and a new NIMS calibration, *J. Geophys. Res.*, (in press).
48. McCoy, F., et al. [**B. Keating**], 1999, Tsunami generated by the late bronze age eruption of Thera (Santorini), *Pure Appl. Geophys.*, 157, 1227-1256.
49. McCoy, T. J., et al. [**K. Keil**], 1999, New lithologies in the Zagami meteorite: Evidence for fractional crystallization of a single magma unit on Mars, *Geochim. Cosmochim. Acta*, 63, 1249-1262.
50. McMurtry, G. M., **E. Herrero-Bervera**, M. D. Cremer, J. R. Smith, J. Resig, C. Sherman, and M. E. Torresan, 1999, Stratigraphic constraints on the timing and emplacement of the Alika 2 giant Hawaiian submarine landslide, *J. Volcanol. Geoth. Res.*, 94, 35-58.
51. **Meibom A.**, Petaev M. I., Krot A. N., Wood J. A., and **Keil K.** (1999) Primitive FeNi metal grains in CH carbonaceous chondrites formed by condensation from a gas of solar composition. *J. Geophys. Res.* **104**, 22,053-22,059.
52. **Meibom, A.**, and B. E. Clark, 1999, Evidence for the insignificance of ordinary chondritic material in the asteroid belt, *Meteorit. Planet. Sci.*, 34, 7-24.
53. **Meibom, A.**, et al. [**A. N. Krot**, and **K. Keil**], 1999, Primitive FeNi metal grains in CH carbonaceous chondrites formed by condensation from a gas of solar composition., *J. Geophys. Res.-Planet.*, 104, E9, 22, 053-22, 059.
54. Meyers, G., et al. [**P. Hacker**], 1999. A southern hemisphere perspective: Monsoon, seasonal and inter-annual applications of an Indian Ocean observing system. In: *International Conference on The Ocean Observing System For Climate, 18-22 October 1999, Saint-Raphael, France, Vol. 1.*
55. **Ming, L.-C.**, et al. [S. Shieh, A. Jayaraman, and S. K. Sharma], 1999, High-pressure phase transformations of CuGeO, *J. Phys. Chem. Solids*, 60, 1, 69-81.
56. **Mouginis-Mark, P. J.**, et al., 1999, Volcano, *Space Imaging*, 14, 5, 24-28.
57. **Radtke, R. L.**, et al., 1999, Two-dimensional X-ray mapping of otoliths, a high-resolution technique for determining amphidromy in the tropical goby *Lentipes concolor* (Gill), *J. Exp. Mar. Biol. Ecol.*, (in press).

58. Richter, B., et al. [**M. Fuller**], 1999, Paleomagnetism of Peninsular Malaysia, *J. E. Asian Earth Sci.*, 17, 477-519.
59. Rowland, S.K., **M.E. MacKay**, **H. Garbeil**, and **P.J. Mouginiis-Mark**. Topographic analyses of Kilauea volcano, Hawaii, from interferometric airborne radar. *Bulletin Volcanology* 61, 1 - 14, 1999.
60. **Scott, E. R. D.**, 1999, Origin of carbonate-magnetite-sulfide assemblages in Martian meteorite ALH84001, *J. Geophys. Res.-Planet.*, 104, E2, 3803-3813.
61. **Sharma, S. K.**, **J. N. Porter**, and **B. R. Lienert.**, 1999, Investigation of the marine environment with a multi-wavelength scanning lidar, in *AMOS Conf. Proc.*, Maui Economical Development Board, Maui, Hawaii, U.S.A., 433-440.
62. Shieh, R. S., H.K. Mao, R. J. Hemley, **L.C. Ming**, and C. T Prewitt, High pressure and high temperature study on dense hydrous magnesium silicates, in *Process and Consequences of Deep Subductions*, B. Mysen, D. Rubie, P. Ulmer, and M. Walter (eds.), Alfred-Wegener-Stiftung, Bonn, 97-98, 1999.
63. Soloviev, A., et al. [R. Lukas, and **P. Hacker**], 1999, A near-surface microstructure sensor system used during TOGA COARE. Part II: Turbulence measurements, *J. Atmos. Ocean. Tech.*, 16, 1598-1618.
64. Taylor, B., A. Goodliffe, and **F. Martinez**, 1999, How continents break up: Insights from Papua New Guinea, *J. Geophys. Res.*, 104, 7, 497-7, 512.
65. Tribble, J. S., and **R. H. Wilkens**, 1999, Mineralogy and microfabric of sediments from the western Mediterranean Sea, in Comas, M., R. Zahn, and A. Klaus (eds.), *Proc. Ocean Drill. Prog., Sci. Results*, 161, Ocean Drill. Prog., College Station, TX, 99-110.
66. Walker, G. P. L., E. Canon-Tapia, and **E. Herrero-Bervera**, 1999, Origin of vesicle layering and double imbrication by endogenous growth in the Birkett basalt flow (Columbia River Plateau), *J. Volcanol. Geoth. Res.*, 88, 1-2, 15-28.
67. Warren, P. H., **E. R. D. Scott**, **A. N. Krot**, and **A. Yamaguchi**, 1999, Petrologic evidence for low-temperature, possibly flood-evaporitic origin of carbonates in the ALH84001 meteorite, *J. Geophys. Res.-Planet.*, 104, E10, 24, 211-24, 215.
68. Wilson, L., et al. [**K. Keil**, **L. B. Browning**, and **A. N. Krot**], 1999, Early aqueous alteration, disruption, and re-processing of asteroids, *Meteorit. Planet. Sci.*, 34, 541-557.
69. Wilson, L., et al. [**K. Keil**], 1999, The internal structures and densities of asteroids, *Meteorit. Planet. Sci.*, 34, 479-483.
70. **Yamaguchi, A.**, **E. R. D. Scott**, and **K. Keil**, 1999, Origin of a unique impact melt rock- the L-chondrite, Ramsdorf, *Meteorit. Planet. Sci.*, 34, 49-59.
71. Zinin, P., M. H. Manghnani, S. Tkachev, V. Askarpour, O. Lefevre and A. Every, "Brillouin spectroscopy of surface waves in thin film Si₃N₄ on GaAs", *Physical Review B*. **60** (4), 2844-2850 (1999).
72. **Zinin, P.**, M. H. Manghnani, A. Briggs, B. D. Zeller, P. Cawley, and A. J. Kinloch, 1999, Study of the degradation coating/substrate interface by time resolved acoustic microscopy, in Katoh, M., and B. B. Djordjevic (eds.), *The Second U.S.-Japan Symp. Advances NDT, Proc. Int. Symp.*, The Japanese Society for Non-Destructive Inspection, Tokyo, Japan, 368-372.
73. **Zinin, P.**, O. Lefevre, A. Briggs, B. D. Zeller, P. Cawley, and A. Kinloch, 1999, Acoustic microscopy for transversely isotropic layer characterisation in material

- science, in Hein, H. J. (ed.), *Augustusburg Conference of Advanced Science, ACAS '99*, Martin-Luther-University Halle-Wittenberg, Halle/Saale, 7-10.
74. **Zinin, P.**, O. Lefeuvre, A. Briggs, B. D. Zeller, P. Cawley, T. Kinloch, X. Zhou, and G. Thompson, 1999, Determination of density and elastic constants of a thin phosphoric acid-anodized oxide film by acoustic microscopy, *J. Acoust. Soc. Am.*, 106, 5, 2560-2567.
 75. **Zinin, P.**, O. Lefeuvre, and G. A. D. Briggs, 1999, Measurement of a stiffening layer density by acoustic microscopy, *J. Mater. Sci. Lett.*, 18, 4, 259-261.