

# NEWSLETTER GEOBRASIL

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- **AMAZINGS**

### **FOTOCRISTALOGRAFIA EN ACCION**

Resulta rutinario determinar las estructuras moleculares de muchas sustancias en sus estados estables. Sin embargo, capturar la estructura de las especies de transición, aquellas que existen sólo durante las reacciones, por millonésimas de segundo, sigue siendo un reto formidable. Científicos de la University at Buffalo han conseguido un importante avance en este campo, gracias a la fotocristalografía.

### **POLUCION GLOBAL**

Después de 18 meses de observaciones desde el espacio mediante un instrumento muy sensible, los científicos europeos han obtenido un mapa atmosférico global de la distribución de un gas contaminante, el dióxido de nitrógeno, el cual es un buen indicador de cómo las actividades humanas afectan a la calidad del aire.

- **NATURE**

A fossil origin for the magnetic field in A stars and white dwarfs 819  
JONATHAN BRAITHWAITE AND HENDRIK C. SPRUIT  
doi: 10.1038/nature02934

Jarosite as an indicator of water-limited chemical weathering on Mars 821  
M. E. ELWOOD MADDEN, R. J. BODNAR & J. D. RIMSTIDT  
doi: 10.1038/nature02971

- **SCIENCE**

Open-System Magma Chamber Evolution: an Energy-constrained Geochemical Model Incorporating the Effects of Concurrent Eruption, Recharge, Variable Assimilation and Fractional Crystallization (EC-E'RA $\chi$ FC) FRANK J. SPERA and WENDY A. BOHRSON J. Petrology published 14 October 2004, 10.1093/petrology/egh072  
<http://petrology.oupjournals.org/cgi/content/abstract/egh072v1?ct>

Cenozoic Magmatism of the North-Eastern Eurasian Margin: The Role of Lithosphere Versus Asthenosphere SATOSHI OKAMURA, RICHARD J. ARCULUS, and YURI A. MARTYNOV J. Petrology published 14 October 2004, 10.1093/petrology/egh065  
<http://petrology.oupjournals.org/cgi/content/abstract/egh065v1?ct>

Rapid Change of Lava Composition from 1998 to 2002 at Piton de la Fournaise (Reunion) Inferred from Pb Isotopes and Trace Elements: Evidence for Variable Crustal Contamination IVAN VLASTELIC, THOMAS STAUDACHER, and MICHEL SEMET J. Petrology published 14 October 2004, 10.1093/petrology/egh062  
<http://petrology.oupjournals.org/cgi/content/abstract/egh062v1?ct>

Initial Results from the Mini-TES Experiment in Gusev Crater from the Spirit Rover P. R. Christensen, S. W. Ruff, R. L. Fergason, A. T. Knudson, S. Anwar, R. E. Arvidson, J. L. Bandfield, D. L. Blaney, C. Budney, W. M. Calvin, T. D. Glotch, M. P. Golombek, N. Gorelick, T. G. Graff, V. E. Hamilton, A. Hayes, J. R. Johnson, H. Y. McSween, Jr., G. L. Mehall, L. K. Mehall, J. E. Moersch, R. V. Morris, A. D. Rogers, M. D. Smith, S. W.

Squyres, M. J. Wolff, and M. B. Wyatt Science. 2004; 305(5685): p. 837-842  
<http://www.sciencemag.org/cgi/content/abstract/305/5685/837?ct>

Basaltic Rocks Analyzed by the Spirit Rover in Gusev Crater H. Y. McSween, R. E. Arvidson, J. F. Bell, III, D. Blaney, N. A. Cabrol, P. R. Christensen, B. C. Clark, J. A. Crisp, L. S. Crumpler, D. J. Des Marais, J. D. Farmer, R. Gellert, A. Ghosh, S. Gorevan, T. Graff, J. Grant, L. A. Haskin, K. E. Herkenhoff, J. R. Johnson, B. L. Jolliff, G. Klingelhofer, A. T. Knudson, S. McLennan, K. A. Milam, J. E. Moersch, R. V. Morris, R. Rieder, S. W. Ruff, P. A. de Souza, Jr., S. W. Squyres, H. Wanke, A. Wang, M. B. Wyatt, A. Yen, and J. Zipfel Science. 2004; 305(5685): p. 842-845  
<http://www.sciencemag.org/cgi/content/abstract/305/5685/842?ct>

Pancam Multispectral Imaging Results from the Spirit Rover at Gusev Crater J. F. Bell, III, S. W. Squyres, R. E. Arvidson, H. M. Arneson, D. Bass, D. Blaney, N. Cabrol, W. Calvin, J. Farmer, W. H. Farrand, W. Goetz, M. Golombek, J. A. Grant, R. Greeley, E. Guinness, A. G. Hayes, M. Y. H. Hubbard, K. E. Herkenhoff, M. J. Johnson, J. R. Johnson, J. Joseph, K. M. Kinch, M. T. Lemmon, R. Li, M. B. Madsen, J. N. Maki, M. Malin, E. McCartney, S. McLennan, H. Y. McSween, Jr., D. W. Ming, J. E. Moersch, R. V. Morris, E. Z. Noe Dobrea, T. J. Parker, J. Proton, J. W. Rice, Jr., F. Seelos, J. Soderblom, L. A. Soderblom, J. N. Sohl-Dickstein, R. J. Sullivan, M. J. Wolff, and A. Wang Science. 2004; 305(5685): p. 800-806  
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The Spirit Rover's Athena Science Investigation at Gusev Crater, Mars S. W. Squyres, R. E. Arvidson, J. F. Bell, III, J. Bruckner, N. A. Cabrol, W. Calvin, M. H. Carr, P. R. Christensen, B. C. Clark, L. Crumpler, D. J. Des Marais, C. d'Uston, T. Economou, J. Farmer, W. Farrand, W. Folkner, M. Golombek, S. Gorevan, J. A. Grant, R. Greeley, J. Grotzinger, L. Haskin, K. E. Herkenhoff, S. Hviid, J. Johnson, G. Klingelhofer, A. Knoll, G. Landis, M. Lemmon, R. Li, M. B. Madsen, M. C. Malin, S. M. McLennan, H. Y. McSween, D. W. Ming, J. Moersch, R. V. Morris, T. Parker, J. W. Rice, Jr., L. Richter, R. Rieder, M. Sims, M. Smith, P. Smith, L. A. Soderblom, R. Sullivan, H. Wanke, T. Wdowiak, M. Wolff, and A. Yen Science. 2004; 305(5685): p. 794-799  
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Localization and Physical Properties Experiments Conducted by Spirit at Gusev Crater R. E. Arvidson, R. C. Anderson, P. Bartlett, J. F. Bell, III, D. Blaney, P. R. Christensen, P. Chu, L. Crumpler, K. Davis, B. L. Ehlmann, R. Fergason, M. P. Golombek, S. Gorevan, J. A. Grant, R. Greeley, E. A. Guinness, A. F. C. Haldemann, K. Herkenhoff, J. Johnson, G. Landis, R. Li, R. Lindemann, H. McSween, D. W. Ming, T. Myrick, L. Richter, F. P. Seelos, IV, S. W. Squyres, R. J. Sullivan, A. Wang, and J. Wilson Science. 2004; 305(5685): p. 821-824  
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Surficial Deposits at Gusev Crater Along Spirit Rover Traverses J. A. Grant, R. Arvidson, J. F. Bell, III, N. A. Cabrol, M. H. Carr, P. Christensen, L. Crumpler, D. J. Des Marais, B. L. Ehlmann, J. Farmer, M. Golombek, F. D. Grant, R. Greeley, K. Herkenhoff, R. Li, H. Y. McSween, D. W. Ming, J. Moersch, J. W. Rice, Jr., S. Ruff, L. Richter, S. Squyres, R. Sullivan, and C. Weitz Science. 2004; 305(5685): p. 807-810  
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Climatic Control of Riverine and Seawater Uranium-Isotope Ratios Laura F. Robinson, Gideon M. Henderson, Lisa Hall, and Iain Matthews Science. 2004; 305(5685): p. 851-854  
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The Effect of Cr<sub>2</sub>O<sub>3</sub> on the Partial Melting of Spinel Lherzolite in the System CaO-MgO-Al<sub>2</sub>O<sub>3</sub>-SiO<sub>2</sub>-Cr<sub>2</sub>O<sub>3</sub> at 1{middle dot}1 GPa XI LIU and HUGH ST. C. O'NEILL J. Petrology. 2004; 45(11): p. 2261-2286  
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