

# MRS BULLETIN

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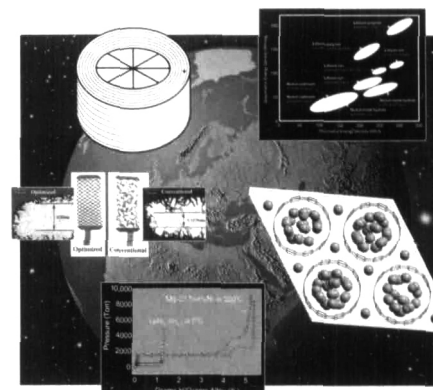
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**ON THE COVER:** (clockwise from top right) The potential energy density in lithium batteries exceeds that available in batteries with nickel electrodes. See article on page 33. A typical configuration of  $H_2$  molecules adsorbed on a triangular array of carbon nanotubes with a lattice constant of  $d_i$ . This configuration resulted from a classical Monte Carlo calculation in which the simulated storage pressure was 10 MPa and the simulated temperature was 50 K. The computed gravimetric storage capacity in this "periodic infinite lattice" is  $\sim 3.1$ -wt%  $H_2$ . The storage capacity in single-walled carbon nanotube geometries that are more compatible with the disordered, finite-diameter ropes observed by electron microscopy is currently being evaluated. See article on page 45. Pressure-composition isotherms for two hydrogen-storage materials:  $LaNi_5$  and the eutectic alloy  $Mg-23.5$ wt%Ni. Note that the  $Mg-23.5$ wt%Ni alloy has two plateau sets, the lower set corresponding to  $MgH_2$  formation/decomposition, and the upper set corresponding to  $Mg_2NiH_4$  formation/decomposition. See article on page 40.  $Pb-0.06$ wt%Ca- $1.7$ wt%Sn battery grids following 12 days of static polarization (200-mV overpotential) in 1.28 sp gr sulfuric acid at 70°C. See article on page 27. Schematic diagram of a rim-type fiber-composite flywheel. See article on page 51.

## About the Materials Research Society

The Materials Research Society (MRS), a not-for-profit scientific association founded in 1973, promotes interdisciplinary goal-oriented basic research on materials of technological importance. Membership in the Society includes over 12,000 scientists, engineers, and research managers from industrial, government, and university research laboratories in the United States and nearly 68 countries.

The Society's interdisciplinary approach differs from that of single-discipline professional societies because it promotes information exchange across the many technical fields touching materials development. MRS sponsors two major international annual meetings encompassing approximately 70 topical symposia, and also sponsors numerous single-topic scientific meetings. The Society recognizes professional and technical excellence and fosters technical interaction in local geographic regions through Sections and University Chapters.

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