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**COVER** Laser spectroscopy of samples in diamond-anvil high-pressure cell. The excitation argon-ion laser (tuned to wavelength of 488 nanometers) is focused by a lens at upper right corner to a 100-nanogram hydrogen sample at a pressure of 30 gigapascals. The optical arrangement is used for Raman scattering, Brillouin scattering, ruby fluorescence, and laser heating at high pressures. See page 605. [Photography by Linda Mao, Fairfax, VA]

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