COVER  High-intensity ultrasound creates localized hot spots in liquids through the process of cavitation: the formation, growth, and implosive collapse of bubbles. Local heating produces excited states of diatomic carbon (C2) from hydrocarbons; these states emit light just as they do in a flame. The images of such sonoluminescence from a vibrating titanium rod (1 centimeter long) is shown in false color. The temperature created in cavitation hot spots, determined from the spectrum of this emission, is ~5000 K. See page 1397. [Photograph by J. A. Gray, K. A. Kemper, and K. S. Suslick; University of Illinois at Urbana-Champaign]


1397  The Temperature of Cavitation: E. B. FLINT and K. S. SUSLICK


1402  Soil Carbon Isotope Evidence for Holocene Habitat Change in the Kenya Rift Valley: S. H. AMBROSE and N. E. SIKES


1408  A Combinatorial Approach Toward DNA Recognition: D. PEI, H. D. ULRICH, P. G. SCHULTZ

1411  Oligonucleosomal Expansion and CD1 Recognition by Human Intestinal Intraepithelial Lymphocytes: S. P. BALK, E. C. EBERT, R. L. BLUMENTHAL, F. V. MCDERMOTT, K. W. WUCHERPFENNIG, S. B. LANDAU, R. S. BLUMBERG

1415  A Mechanosensitive Channel in Whole Cells and in Membrane Patches of the Fungus Uromyces: X.-L. ZHOU, M. A. STUMPF, H. C. HOCH, C. KUNG

1417  Depletion of CD4+ T Cells in Major Histocompatibility Complex Class II–Deficient Mice: M. J. GRUBSY, R. S. JOHNSON, V. E. PAPAIOANNOU, L. H. GLIMCHER

1420  Excitatory Synaptic Responses Mediated by GABAA Receptors in the Hippocampus: H. B. MICHELSON and R. K. S. WONG

1423  Negative Regulation of CD45 Protein Tyrosine Phosphatase Activity by Ionomycin in T Cells: H. L. OSTERTAARD and I. S. TROWBRIDGE


1429  Evolution at the Molecular Level, reviewed by R. J. MACINTYRE  Earthquake Hazard Analysis, S. W. SMITH  Flow and Reactions in Permeable Rocks, L. SMITH  Some Other Books of Interest

1437  Sample Volume Cell Disruptor  Monoclonal Antibodies  Fluorescent Rulers  Purification-Free Matrix for DNA Electrophoresis  Glass Slurry Purification of DNA  Vacuum Pump Oil Changer  Graphing Software  Literature

Table of Contents  1329