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COVERAGE
Saturn and its rings as seen by the Cassini orbiter. Saturn’s rings contain innumerable chunks of water ice polluted by material of varying color and composition. The massive B ring (bottom) and the tenuous C ring (closest to the planet) are dominated by unexplained structure. Saturn’s yellowish appearance signifies a deep cloud layer beneath seasonal haze. See pages 1470 and 1476.
Image: NASA/JPL/CICLOPS
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The origins of modern social norms and behaviors may be found in the evolution of institutions.
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J. M. Hales et al.
Nonlinear optical materials are designed and characterized for potential applications in all-optical switching.
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1488  Ferrous Polycrystalline Shape-Memory Alloy Showing Huge Superelasticity
Y. Tanaka et al.
A shape-memory alloy has been prepared with high mechanical energy absorption capability and reversible magnetization change.
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1491  Eliminating Turbulence in Spatially Intermittent Flows
B. Hof et al.
Injection of jets of water is used to control the transition from laminar to turbulent flow in pipes.
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1495  Microcavity Laser Oscillating in a Circuit-Based Resonator
C. Walther et al.
An ultrasmall laser is fabricated from conventional electronic components combined with an amplifying medium.

1497  The Climatic Signature of Incised River Meanders
C. P. Stark et al.
Typhoon frequency and bedrock strength influence river meandering in mountain environments.

1501  Transition-State Spectroscopy of Partial Wave Resonances in the F + HD Reaction
W. Dong et al.
Spectroscopy can distinguish the reaction paths in a collision between an atom and a diatomic system.
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1502  Mechanosensitive Self-Replication Driven by Self-Organization
J. M. A. Carnall et al.
The type of mechanical agitation applied to a solution influences which of two molecular products dominate.

1506  Seminal Fluid Mediates Ejaculate Competition in Social Insects
S. P. A. den Boer et al.
Substances produced by rival male social insects destroy sperm, and females produce compounds to counteract sperm loss.

1509  Patterns of Diversity in Marine Phytoplankton
A. D. Barton et al.
Highest diversity occurs in physically dynamic mid-latitude zones, and lowest diversity and highest biomass occur toward the poles.

1512  Unicellular Cyanobacterial Distributions Broaden the Oceanic N₂ Fixation Domain
P. H. Moisander et al.
Nitrogen fixation in the South Pacific Ocean is partitioned among several microbe species with distinct ecophysiologies.

1515  A Critical Role for α 4 βδ GABA Receptors in Shaping Learning Deficits at Puberty in Mice
H. Shen et al.
Learning incapacity observed during puberty is related to receptor location in the hippocampus.
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1518  CKAMP44: A Brain-Specific Protein Attenuating Short-Term Synaptic Plasticity in the Dentate Gyrus
J. von Engelhardt et al.
A synaptic protein that regulates postsynaptic AMPA receptor responses has been cloned and functionally characterized.
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1522  Circadian Gating of the Cell Cycle Revealed in Single Cyanobacterial Cells
Q. Yang et al.
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The brain’s overreaction to rewards may lead to impulsive, antisocial behavior.