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ON THE WEB THIS WEEK

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COVER
Stylized comparison of the inner solar system (top) and Kepler-62 (bottom), a five-planet system about 1200 light-years away. Like our solar system, Kepler-62 hosts two planets in its habitable zone (depicted in green), the region around a star where a planet could conceivably maintain liquid water on its surface. The special section beginning on page 565 summarizes what we currently know about extrasolar planets.

Illustration: NASA/Jet Propulsion Laboratory–Caltech/T. Pyle

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R. Islam et al.

Coulomb interactions in a system of 16 trapped ions are used to simulate magnetism with varying degrees of frustration.

587 Kepler-62: A Five-Planet System with Planets of 1.4 and 1.6 Earth Radii in the Habitable Zone
W. J. Borucki et al.
The Kepler mission detected a five-planet system with two small planets in the habitable zone of a star lighter than the Sun.

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591 Complex N-Heterocycle Synthesis via Iron-Catalyzed, Direct C-H Bond Amination
E. T. Haneyessy and T. A. Betley

An iron catalyst facilitates carbon–nitrogen bond formation in previously unreactive substrates.

595 Self-Assembling Cages from Coiled-Coil Peptide Modules
J. M. Fletcher et al.
Hexagonal networks form from heterodimeric and homotrimeric coiled coils and create ~100-nanometer-diameter cages.

599 Amplifying Genetic Logic Gates
J. Bonnet et al.
A genetic circuit architecture resembling a transistor can be engineered into individual live cells.

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603 Controlled Flight of a Biologically Inspired, Insect-Scale Robot
K. Y. Ma et al.
A fly-scale, flapping-wing robot has been fabricated and can be controlled to perform unconstrained flight maneuvers.

607 3D Reconstruction of the Source and Scale of Buried Young Flood Channels on Mars
G. A. Morgan et al.
Radar data taken from orbit reveal the complex morphology of buried flood channels in a young region of Mars.

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Structures of serotonin receptor family members in complex with the fungal alkaloid ergot offer clues for drug designers.

615 Structural Features for Functional Selectivity at Serotonin Receptors
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630 Heterogeneous Differentiation Patterns of Individual CDB+ T Cells
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