



#### **COVER IMAGE**

Intense lasers can both ionize atoms and subsequently drive the recollision of the released electrons with their ionized parents. Holography experiments now show that the orientation of the parent can change the recollision process, requiring a refinement of the commonly used strong-field approximation.

Article p594; News & Views p550

IMAGE: MICHAEL SPANNER
COVER DESIGN: ALLEN BEATTIE

## ON THE COVER

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> Quantum metrology Network of atomic clocks Article p582

Solid-state physics Perfect disorder Letter p578; News & Views p555

## **EDITORIAL**

539 Having it all

#### COMMENTARY

540 All the colours of the rainbow
Hannah E. Smithson, Giles E. M. Gasper and Tom C. B. McLeish

#### **THESIS**

543 Equivalence principle
Mark Buchanan

#### **BOOKS & ARTS**

- 544 Time in Powers of Ten: Natural Phenomena and Their Timescales by Gerard 't Hooft and Stefan Vandoren; translated by Saskia Eisberg-'t Hooft Reviewed by Iulia Georgescu
- Theatre: Creative energy
  Reviewed by Juliane Mossinger
- 546 Exhibition: Cut and colour Reviewed by Luke Fleet

#### RESEARCH HIGHLIGHTS

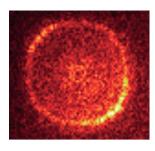
547 Our choice from the recent literature

### **NEWS & VIEWS**

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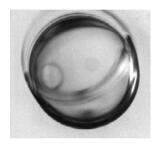
# **LETTERS**

- 557 Evidence for the direct decay of the 125 GeV Higgs boson to fermions
  The CMS Collaboration
- 561 Spin Hall effect tunnelling spectroscopy
  Luqiao Liu, Ching-Tzu Chen and J. Z. Sun
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In crystalline topological insulators, the combination of an insulating bulk with conducting surface states is due to particular crystal symmetry. The associated Dirac cones — linear crossings in the electronic band structure — display non-trivial orbital textures that have now been probed by means of scanning tunnelling spectroscopy.

Letter p572



When a bubble bursts on reaching a surface, mass transfer from the liquid to the gas phase can occur — aerosol dispersion. Now, the inverse transport process is reported: sub-micrometre-sized oil droplets, formed during bubble bursting, are zipped across the interface to the liquid phase.

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- 567 Dissipative superconducting state of non-equilibrium nanowires
  Yu Chen, Yen-Hsiang Lin, Stephen D. Snyder, Allen M. Goldman
  and Alex Kamenev
- 572 Mapping the unconventional orbital texture in topological crystalline insulators

Ilija Zeljkovic, Yoshinori Okada, Cheng-Yi Huang, R. Sankar, Daniel Walkup, Wenwen Zhou, Maksym Serbyn, Fangcheng Chou, Wei-Feng Tsai, Hsin Lin, A. Bansil, Liang Fu, M. Zahid Hasan and Vidya Madhavan

578 Solids between the mechanical extremes of order and disorder Carl P. Goodrich, Andrea J. Liu and Sidney R. Nagel
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#### **ARTICLES**

- 582 A quantum network of clocks
  P. Kómár, E. M. Kessler, M. Bishof, L. Jiang, A. S. Sørensen, J. Ye and M. D. Lukin
- 588 Observation of chiral currents with ultracold atoms in bosonic ladders
  Marcos Atala, Monika Aidelsburger, Michael Lohse, Julio T. Barreiro, Belén Paredes
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- 594 Signatures of the continuum electron phase in molecular strong-field photoelectron holography

M. Meckel, A. Staudte, S. Patchkovskii, D. M. Villeneuve, P. B. Corkum, R. Dörner and M. Spanner

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- **Demonstration of magnetically activated and guided isotope separation**Thomas R. Mazur, Bruce Klappauf and Mark G. Raizen
- Manoemulsions obtained via bubble-bursting at a compound interface

  Jie Feng, Matthieu Roché, Daniele Vigolo, Luben N. Arnaudov, Simeon D. Stoyanov,
  Theodor D. Gurkov, Gichka G. Tsutsumanova and Howard A. Stone

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### **FUTURES**

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John Frizell

