

COVER IMAGE

A visualization of the titles of scientific articles in Nature Physics, ordered clockwise based on their publication date, and connected by a citation network. Font size, colour and distance from the centre indicate the number of citations, with large titles in green denoting the most highly cited papers.

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VISUALIZATION: MAURO MARTINO,
DATA: ROBERTA SINATRA

COVER DESIGN: ALLEN BEATTIE

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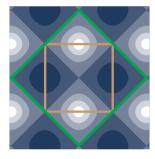
High-precision symmetry

NATURE PHYSICS | VOL 11 | OCTOBER 2015 | www.nature.com/naturephysics



A simple system for studying self-organization in biology comprises driven actin filaments, thought to interact primarily via binary collisions. Angle-resolved statistics suggest that the transition to polar order is driven by multi-filament events.

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The Bose-Einstein condensation of ultracold atoms in a strong synthetic magnetic field in a cubic lattice realizes the Harper-Hofstadter model used in the study of topological states of matter.

Article p859; News & Views p801

- 830 Long-lived nanosecond spin relaxation and spin coherence of electrons in monolayer MoS₂ and WS₂
 - Luyi Yang, Nikolai A. Sinitsyn, Weibing Chen, Jiangtan Yuan, Jing Zhang, Jun Lou and Scott A. Crooker
- 835 Dynamic patterns of compaction in brittle porous media

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839 Polar pattern formation in driven filament systems requires non-binary particle collisions

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848 Network motifs emerge from interconnections that favour stability Marco Tulio Angulo, Yang-Yu Liu and Jean-Jacques Slotine

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- 859 Observation of Bose-Einstein condensation in a strong synthetic magnetic field

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- 865 Itinerant density wave instabilities at classical and quantum critical points Yejun Feng, Jasper van Wezel, Jiyang Wang, Felix Flicker, D. M. Silevitch, P. B. Littlewood and T. F. Rosenbaum
- 872 Optical simulations of gravitational effects in the Newton-Schrödinger system

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