Optical vortices emitted by an array of silicon ring resonators.
The helical phase fronts, indicated by spirals, denote photons with
orbital angular momentum. Emission results from the embedded
angular gratings that extract the light waves traveling around
the ring. The small emitters (diameter: 8 micrometers) can be
integrated on a large scale into photonic integrated circuits,
enabling new applications in optical communications and sensing,
quantum photonics, and lab-on-a-chip. See page 363.

Image: Yue Zhang (ciel924@126.com), based on data from
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349 Transcriptional Architecture and Chromatin Landscape of the Core Circadian Clock in Mammals
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A 1-day reconstruction of transcriptional events reveals the influence of the circadian clock across the genome.
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High-resolution observations of the jet in the galaxy M87 probe structures very close to the galaxy’s central black hole.

358 Self-Assembled Colloidal Superparticles from Nanorods
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Colloidal rods self-assemble into semiconducting superparticles with a shape controlled by the number of rods.

363 Integrated Compact Optical Vortex Beam Emitters
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Microring resonators embedded with angular gratings are used to generate orbital angular momentum states of light.
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Y. Sun et al.
Global warming during the Early Triassic was so severe that equatorial latitudes were uninhabitable for many plants and animals.
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An RNA-binding protein whose cyclic accumulation is regulated by body temperature confers robustness to circadian oscillators.
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Online Highlights

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RESEARCH ARTICLE: TWEAK and cLFAP1 Regulate Myoblast Fusion Through the Noncanonical NF-kB Signaling Pathway
E. Enwere et al.
Muscle fiber formation from progenitor cells is dependent on noncanonical NF-kB signaling.

RESEARCH ARTICLE: The Temporal Pattern of Stimulation Determines the Extent and Duration of MAPK Activation in a Caenorhabditis elegans Sensory Neuron
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Imaging kinase activity in neurons of living worms reveals the complexity in the response.

PERSPECTIVE: The Response of Cancers to BRAF Inhibition Underscores the Importance of Cancer Systems Biology
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REVIEW: The Hedgehog Signal Transduction Network
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PRESENTATION: Neurosteroids and Microneurotrophins Signal Through NGF Receptors to Induce Prosurvival Signaling in Neuronal Cells
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Synthetic DHEA analogs promote neuronal survival without estrogenic or androgenic side effects.

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