



PHYSICS TODAY

December 2019 • volume 72, number 12

A publication of the American Institute of Physics

Meteorology
past and present

**New topological
semimetals**

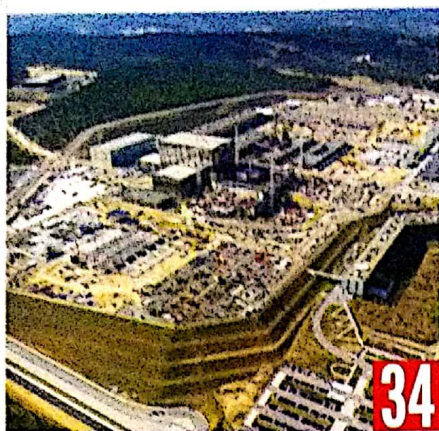
**ITER's scientific
prospects**

**Carbon tax or
cap and trade?**

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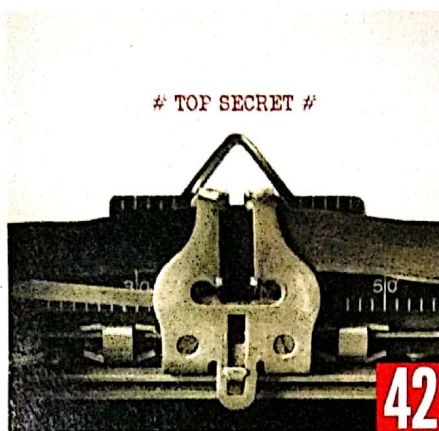


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Charles Day

The magazine marks the centenary of the American Meteorological Society by looking back at how our coverage of meteorology has evolved.



ON THE COVER: This month the American Meteorological Society celebrates its 100th anniversary. PHYSICS TODAY's editor-in-chief, Charles Day, marks the momentous milestone, starting on **page 52**, by looking back at how the magazine has covered, or neglected to cover, progress in the science of climate and weather since the first issue was published in May 1948. (Detail from *Skyscape*, 1912, by Nicholas Roerich/Tretyakov Gallery, Moscow/ Bridgeman Images.)

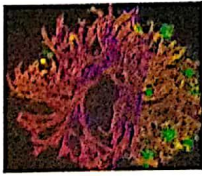
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▶ Secret physics

At Los Alamos National Lab, physicists Chris Fryer and Tess Light can pursue interdisciplinary research and take up tangential projects. But the secrecy around their work can get complicated. Sarah Scoles tells their stories to explore the advantages and drawbacks of a career in national security science. physicstoday.org/Dec2019a



▶ Quantum dots

To track pollen's movement between flowers, biologist Corneile Minnaar attached quantum dots to pollen and observed their fluorescence with a 3D-printed box that fits under a dissection microscope. Sarah Wild reports on how the method helped researchers probe an intriguing flower species. physicstoday.org/Dec2019b



▶ Proton radius

The charge radius of the proton was thrown into question in 2010, when an experiment yielded an unexpectedly small value of about 0.84 femtometers. A pair of experiments now confirm that measurement. PHYSICS TODAY's Heather Hill explains whether the results settle the decade-old mystery. physicstoday.org/Dec2019c

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