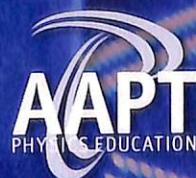


January 2016

Volume 54 Number 1

The Physics Teacher

A publication of the American Association of Physics Teachers



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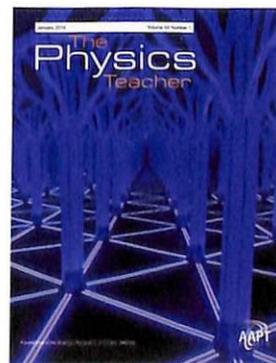
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with its dazzling bluish reflections, was taken in the mirror maze at Chicago's Museum of Science and Industry by Kazuhiro Louis Akamatsu, a student of Bruce Medic's at Glenbard H.S., Glen Ellyn, IL. To see other images from the annual AAPT H.S. Physics Photo Contest, go to www.aapt.org/Programs/contests/photocontest.cfm



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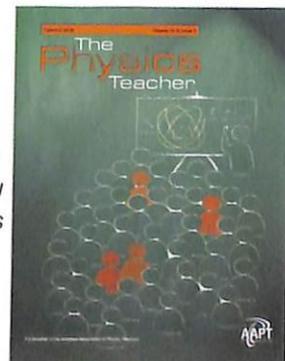
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This Month's Cover...

...portrays a classroom with about 10% of the students a different color than the others. Is this representative of an introductory physics class in your school? Which do you think has similar physics class demographics: (a) Harvard, (b) Norfolk State, (c) Whitney High School, (d) Walla Walla Community College, (e) U.S. national averages, or (f) none of the above?



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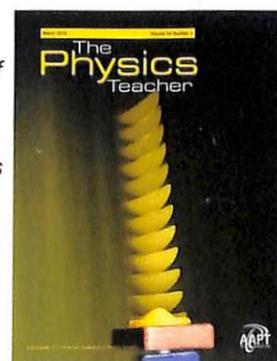
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This Month's Cover...

tracks a "hopper popper" as it launches itself off a platform. Challenge yourself or your class to produce an estimate of the launch velocity and submit answers to tpt@appstate.edu for a fun physics prize. For more details, see the article on p. 138 by N. Greene, T. Gill, and S. Eyerly.



(Photo by Tom Gill)

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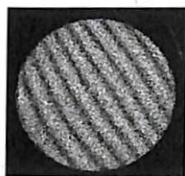


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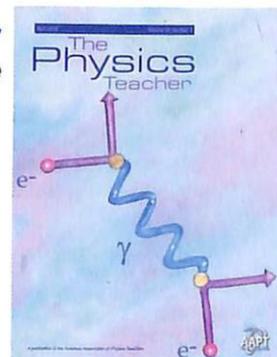
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This Month's Cover...

is a colorful depiction of the leading order Feynman diagram for electron-electron scattering. See the article on p. 203 for insights into how these diagrams fit into the history and mystery of the electron. (Courtesy of Diane Lincoln)



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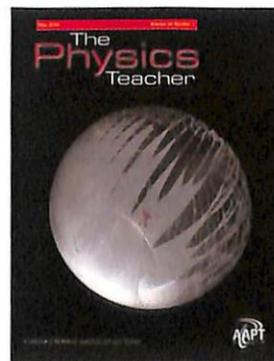


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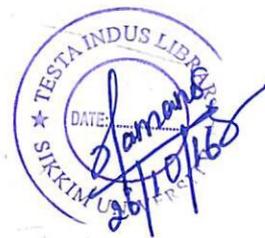
This Month's Cover...

shows a weather balloon from below, just after it bursts. Where do the balloon's remnant tendrils (and the tether's tug, apparent just southwest of center) suggest as the location of the failure point of the balloon? To examine the complete photo sequence, see the article by Fong, Kennon, and Roberts, which begins on p. 264.



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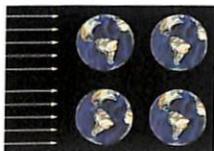
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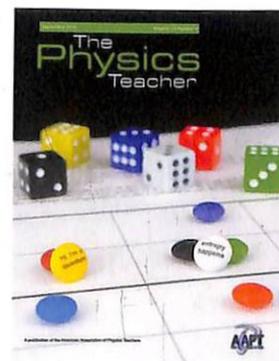
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This Month's Cover...

features colorful dice and hard candies to help teach about entropy. Jeffrey Phillips' article on page 344 emphasizes that it is better to associate entropy with energy spread than with disorder.



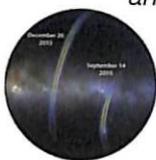
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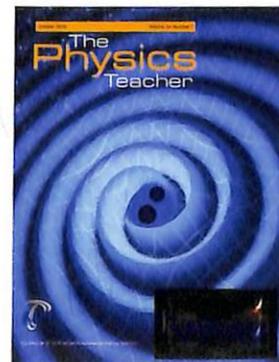
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This Month's Cover...

depicts a scene from the merging of two black holes and the associated ripples in spacetime. The inset represents the subsequent chirp signal received by LIGO this past September, about a billion years later. See "Ripples in Reality" by Don Lincoln and Amber Stuver on page 398 for more details about this new window through which to view the universe.



(Image credit: LIGO/T. Pyle)

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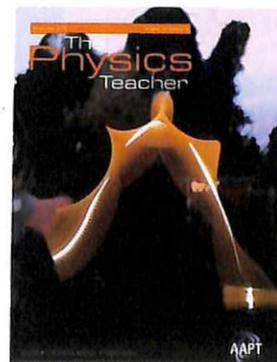
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This Month's Cover..

reveals the elegant path of a light affixed to a tossed bat's center of mass, amidst a flurry of cusps and rosettes representing the bat's gyrations. Taken with an iPhone 6 and the app "Slow Shutter Cam" by Jacob Lev Amme of Albany High School in Albany, CA (Teacher: Valerie Risk), it won first place in the Contrived Category of the 2016 AAPT High School Physics Photo Contest. See page 464 to learn how Richard Hechter leverages the photo contest entries in his classroom.



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This Month's Cover...

appears to feature a snowflake atop a rainbow spire, yet there's something fishy about this beautiful ice-crystal-on-bubble image by Daniela Rapava. What clues can you find that hint at the natural orientation of the cover image and of this month's Visual Physics entry on page 576?

