THE PHYSICS TEACHER

CONTENIDO

VOLUME 49 No. 4 APRIL 2011

PAPERS

- 202 Teaching Newton's Laws with the !Pod Touch in Conceptual Physics. *Angela Kelly.*
- 208 Physics Thirst? A Survey of Ninth. Grade Physics Students. Boris Korsunsky and Grace Huckins.
- 212 Helium Speech: An Application of Standing Waves. *Christopher D. Wantworth.*
- 216 'It Has to Go Down a Little, in Order to Go Around' Revisiting Feynman on the Gyroscope. Svilen Kostov and Daniel Hammer.
- 220 Special Relativity in Week One: 2) All Clocks Run Slow. *Elisha Huggins.*
- 222 Harnessing Students' Interest in Physics with Their Own Video Games. *Christopher Like*.
- 225 Cramster: Friend or Foe? *Michael Grams*.
- 228 Inexpensive Instruments for a Sound Unit. *Bob Brazzle*.
- 231 Teaching the First Law of Thermodynamics via Real-Life Examples. *Wheijen Chang.*
- 234 Can a String's Tension Exert A Torque on a Pulley? Dennis E. Krause and Yifei Sun.
- 236 A Mechanical Analogue of the Refracting Telescope. Maurizio Vannoni, Giuseppe Molesini, Andrea Sordini, and Samuele Straulino.
- 238 Stunt Barbie A Laboratory Practicum Combining Constant Velocity and Constant Acceleration. Scott Hertting.

- 241 The Opaque Project: The Inverse of the Camera Obscura. *Thomas B. Greenslade Jr.*
- 242 Engineering Design Modules as Physics. Douglas L. Oliver and Jackie Kane.

COLUMNS

196 Letter to Editor

- 198 **Figuring Physics** How Warm or Cold? *Paul Hewitt.*
- 200 AAPT Awards. Alex Dickison.

246 **Apparatus for Teaching Physics.** Doppler frequency shift of sound apparatus *Walter Schier*.

248 **Trick of the Trade.** Roll over, Rover *Mike Shaw.*

249 **For the New Teacher.** What physics principle can I teach with this?

Paul Dolan.

250 YouTube Physics. Diane Riendeau.

251 **Physics Challenge for Teachers and Students.** *Boris Korsunsky.*

252 Little Gems.

The dream of transmutation of common material to silver: An example of a hands-on science experiment. *Andreas Müller*.

524 WebSights.

Dan Maclsaac.

Book Reviews

Hitler's Uranium Club: The Secret Recordings at Farm Hall, 2nd ed., by Jeremy Bernstein. *Al Bartlett, reviewer.*

In My Opinion.

Breaking the barriers in physics.

Duruhan Badraslioglu.

256 Fermi Question.

Larry Weinstein.

Inside Back Cover What's Happening!

This Month's Cover...

Svilen Kostov and Daniel Hammer describe classroom experiments with the gyroscope in their paper beginning on p. 216 of this issue, The article is accompanied by the description of a related by Wolfgang Christian, that is available in the OSP ComPADRE Collection.