

WebSights features announcements and reviews of select sites of interest to physics teachers. All sites are copyrighted by their authors. This column is available as a web page at [PhysicsEd.BuffaloState.Edu/pubs/WebSights/](http://PhysicsEd.BuffaloState.Edu/pubs/WebSights/). If you have successfully used a physics website that you feel is outstanding and appropriate for WebSights, please email me the URL and describe how you use it to teach or learn physics—[macisadl@buffalostate.edu](mailto:macisadl@buffalostate.edu).

• **Dr. Don Petit's "Science off the Sphere" videos**

[physicscentral.com/explore/sots/](http://physicscentral.com/explore/sots/)

Sponsored by NASA and the APS (American Physical Society), these vignettes feature the physics of microgravity from captivating demonstrations conducted on the International Space Station. I was drawn to this site after finding the first video, "Dancing Droplets," on YouTube (the YouTube version also has voice captioning). "Dancing Droplets" shows tiny droplets of water performing cylindrical orbits around an electrostatically charged Teflon® knitting needle. I found the YouTube version of this same video ran much more smoothly than the Physics Central site, but Physics Central has a challenge question competition. The videos show interesting visual phenomena and relate them to many other physics phenomena. DOI: 10.1119/1.3694089

• **The Cassiopeia Project: A series of free science education videos available from [Cassiopeiaproject.com](http://Cassiopeiaproject.com)**

A delightfully odd collection of about 100 science videos funded by "a retired physicist who has considerable means that he wishes to dedicate to alleviate the growing problem of science illiteracy in this country." Most videos are about 5-10 minutes in length, and physics video topics include carbon dating, fission and fusion, gravity and branes, double slit, temperature, action, QED; plus a six-video series on relativity, another six-video series on complexity, and another six-video series on quantum mechanics (overlain by a science fiction storyline), and 12 videos on the Standard Model. The site also holds short videos on chemistry (including spectral lines and the periodic table), much on biology, evolution and related areas and a series on space (mostly solar astronomy). Videos are mainly expository science facts and interesting animations, but exposition sometimes includes entertainingly surreal 3D animations of narrators—for example, the double slit video is narrated by a distracting floating decapitated metallic silver head. I particularly appreciated the videos on action (rarely treated in video) and QED (nice analysis of the diffraction grating), and the slightly lengthy (20 minute) Standard Model video set opener was particularly good as well.

I did note with dismay there are two videos in the "general science" area that seem to downplay human responsibility in global warming. Most videos seem to date to 2008-2009, and the site indicates that all videos are freely available for download and re-use. DOI: 10.1119/1.3694090

• **The Standard Model appearing in Minute Physics video vignettes on YouTube** [youtube.com/watch?v=HVO0HgMi6Lc](http://youtube.com/watch?v=HVO0HgMi6Lc)

Finally, *exactly* what the world needs—a physics-trained cartoonist attempts a layman's explanation of the Standard Model of physics in a series of 60-90-second long YouTube vignettes. I continue to be enthralled with *Minute Physics* [youtube.com/user/minutephysics](http://youtube.com/user/minutephysics) by Henry Reich of the Perimeter Institute for Applied Physics [perimeterinstitute.ca/](http://perimeterinstitute.ca/) **Beware:** *Minute Physics* also addresses edgier popular physics topics that will certainly distract you and your students. *Minute Physics* was discussed at length in the February 2012 edition of this *WebSights* column. DOI: 10.1119/1.3694091

• **Scale of the Universe 2: An Interactive Scale of the Universe Tool by Cary and Michael Huang** [htwins.net/scale2/](http://htwins.net/scale2/)

This updated animated user-controllable Adobe Flash applet by the Huangs is strongly reminiscent of Charles and Ray Eames' 1968 famous "Powers of Ten" video narrated by Philip Morrison of MIT physics. I am particularly grateful for the sound controller and mute button. It seems the Huangs are twin teenage brothers from Moraga, CA: [tinyurl.com/SOTU2](http://tinyurl.com/SOTU2). DOI: 10.1119/1.3694092

• **"Teacher Education in Physics," edited by David E. Meltzer and Peter Shaffer** [www.ptec.org/items/detail.cfm?ID=11618](http://www.ptec.org/items/detail.cfm?ID=11618)

This book came about due to an increasing national recognition of a need for improved preparation of physics and physical science teachers. Although there is an extensive and growing body of research and research-based practice in physics teacher education, there has been no single resource for scholarly work in this area. In response, the Physics Teacher Education Coalition (PhysTEC) project management selected editors and an editorial board for the book based on recommendations from the physics education community. This resulting book includes new reports that reflect cutting-edge research and practice, as well as reprints of previously published seminal papers.

Published by the Physics Teacher Education Coalition (PhysTEC), a project of the American Physical Society (APS) and American Association of Physics Teachers (AAPT).

*Description taken from the [ptec.org](http://ptec.org) website.*

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