

High Energy Physics

Monday, Jan 26, 2004 1:00 - 3:00 PM

William Waggoner, Creighton Univ and others

A number of high school projects to detect cosmic ray showers have been set up across the United States. Detectors have been placed in various schools, and data gathered are collected. Several projects are outlined below.

Thomas Jordan, Fermi National Accelerator Laboratory

Fermilab Cosmic Rays for High Schools: ~70 detectors have been placed in high schools so far. Data is gathered in a central node, and available to other schools for student projects. For more information see <http://www.fnal.gov/pub/ferminews/ferminews02-02-01/p3.html>.

Daniel R. Claes Univ. of Nebraska

Nebraska CROP Project: see <http://unlhep2.unl.edu/~CROP/CROP2003.html>.

Theresa Lynn, California Institute of Tech

CHICOS California High School Cosmic Ray Observatory (Caltech): detectors have been placed across the Los Angeles area. See <http://www.chicos.caltech.edu/>.

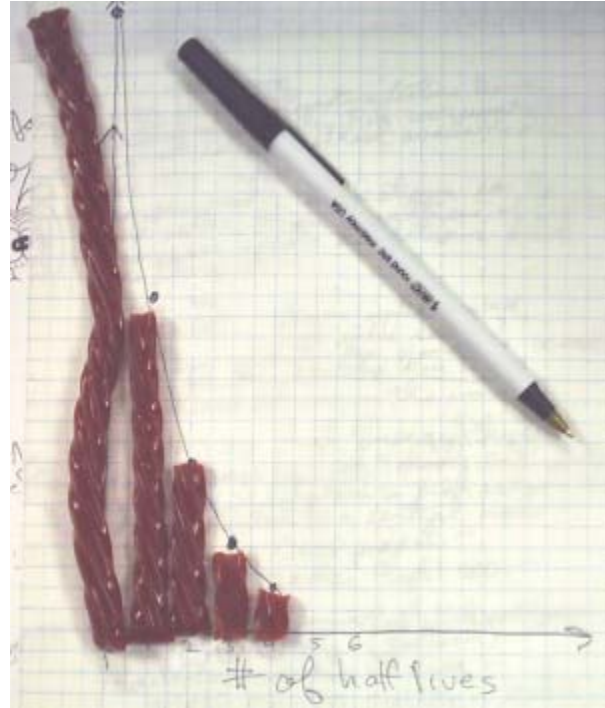
Olga Ovchinnikov, Univ. of Tennessee, Knoxville

Oak Ridge National Labs TECOP Tennessee Cosmic Ray Observatory Project: detectors have been placed in Knoxville, TN. See <http://www.phys.utk.edu/tecop/main.htm>.

Albany Quarknet: see <http://www.albany.edu/faculty/jae/quarknet/>.

Demonstrating Exponential Decay Curves:

a) Twizzler Half Lives: start with a whole Twizzler licorice stick. Measure the length. Break it in half. Measure the length. Repeat as many times as possible. Plot the lengths versus the number of breaks. Alternate: use several Twizzlers, and use the pieces to form the graph.



b) Pour very cold Vanilla Coke into a graduated cylinder. Record the height of the foam as a function of time. Plot height versus time.

c) Construct an RC circuit using Radio Shack parts and a 9V battery. Plot voltage versus time.

