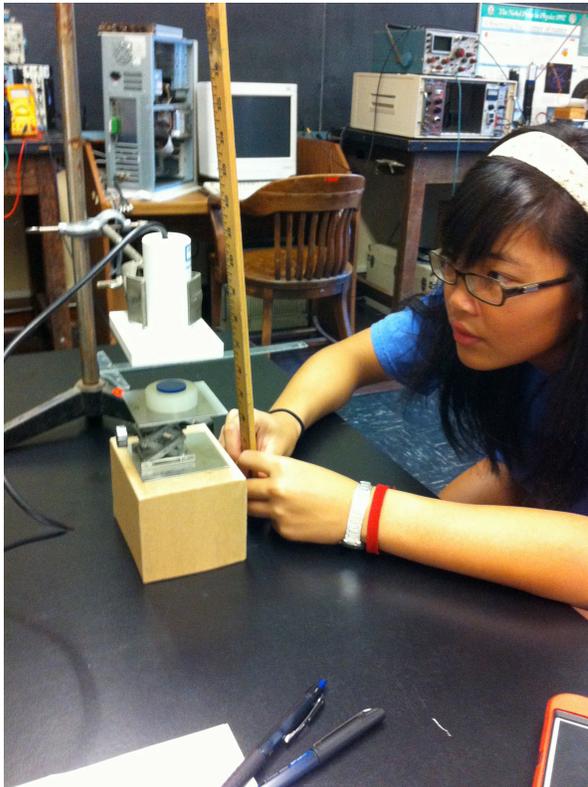


University of Mississippi QuarkNet 2011 Activity Report 9/14/12

The University of Mississippi 2012 QuarkNet group is comprised of 7 regional high school teachers from around the state and their students. We were active in the 2012 with meetings, Master Class activities, and a LIGO e-Lab summer workshop.

Masterclass 2011

About 30 students and their teachers from North Della HS, Math and Science School (MSMS), Ridgeland HS, and Oxford High School(OHS), met at the University on



Saturday Mar 24, 2011 and analyzed W and Z boson events from MC data produced by CMS collaboration at CERN. The students did well in mastering the software and event selection.

Student/Teacher Research

During the summer 2012 Jimmy Reidy worked with student Dora Chen and Ricky Kroeger at the University. They built table-top Michelson Interferometers for the Ligo e-Lab, performs some experiments with geophones.

They also performed a cosmic ray experiment in which they investigated the angular dependence. They submitted a Ligo e-Lab and cosmic e-Lab to the web interfaces.

Figure 1: Calibrating the thickness gauge.

The students also worked on an interesting application of radioactivity where they built a beta particle thickness gauge. Using the absorption of beta particles in materials they were able to measure the 180 μm thickness of an accelerator beam line window shown in Figure 1.

Meetings

The next meeting of the QuarkNet group will take place at the Fall of 2012 to participate in International Cosmic Ray Day, a celebration of the discovery of cosmic rays by Victor Hess.

Submitted by L. Cremaldi