

Physics Learning Through International Collaboration

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Catholic Junior College is a college preparatory school that involves her students in a number of astronomy initiatives in the learning of Physics. Since 2004, some of our Astronomy Club members participated in the Radiojove Program developed by NASA Education Outreach Program every year. The NASA Radiojove program provided many varied independent study projects and classroom options. Using a kit purchased through the internet from the Radiojove project, students set up the kit to receive signals from both the Sun and Planet Jupiter. During club activity time, students participated in the assembly of the kit, and collection and analysis of data. The project is then compiled into a report to be submitted for Science Fairs. Results of the investigation are also presented during the lectures as part of teaching materials. The relevant Physics Topics include Magnetism, Electro-magnetism, Charged Particles, Capacitors and Current of Electricity. So far, two projects have been completed:

1. The investigation of the effects of Solar Flares on Decametric Frequencies (2004)
2. The investigation of Plasma bubbles in the equatorial region (2005)

During the process of investigation, students collaborated with overseas mentors to solve their problems through emails. This approach to learning is innovative as it provided a suitable platform for problem-based learning and social constructivism.

Keywords: Radiojove, Radio-astronomy, Plasma Bubbles, Solar Flares, Earth Science, Solar Science, Hawaii, Puerto Rico, Problem-based Learning, Social Constructivism.

References

- [1] <http://radiojove.gsfc.nasa.gov/library/pubs.htm>