SOCIETY OF PHYSICS STUDENTS
An organization of the American Institute of Physics

Marsh W. White Award Proposal

Project Proposal Title	Spark, Spin, Freeze!
Name of School	Georgia Institute of Technology
SPS Chapter Number	2361
Total Amount Requested	$170

Abstract

The Georgia Tech Society of Physics Students has a demo show called “Spark, Spin, Freeze!” We do demos in angular momentum, electromagnetism, and liquid nitrogen. We need some money to help bring more interesting demos into our collection.

Proposal Statement

The entire Proposal Statement should be no more than 2 pages, and organized as follows.

Overview of Proposed Project/Activity/Event

Spark, Spin, Freeze is a demo in angular momentum, electromagnetism, and liquid nitrogen. After going to the outreach workshop at Physcon this past November, I realized how much our presentation can improve. I found a website with a few demos that can be added to our presentation at https://www.arborsci.com/blogs/cool/top-ten-best-physics-demos-youre-not-doing. Specifically demos #5 and 8. #5 is a demonstration magnetic fields in magnetic materials and can be a good way to visualize magnets for children. It fits in perfectly with the rest of our electromagnetism demos, which we have a Lenz's law demo, and a van de graff generator. #8 is a perfect superconductor demo for liquid nitrogen. Having personally seen superconductor demos, this is one thing that is always very interesting. Levitation is something that will definitely get children interested in physics!

How Proposed Activity Promotes Interest in Physics

In my personal experience, hands on experience of physics is always the best way to get people interested in physics. There are plenty of demonstrations that can go against our intuition. These will certainly get children, our inteded audience, interested in physics in some way.

Plan for Carrying Out Proposed Project/Activity/Event

- Personnel – I, Matthew Barroso, the outreach chair for Georgia Tech SPS will be buying the proposed items for the club.
- Marketing – We already have schools that we go to to do our demos. We reach out every semester to schools in the Atlanta area to see who is interested in seeing our demos.
- SPS member participation – Our group generally sees 5-10 volunteers going to our outreach events
- Expertise – All outreach participants are trained by senior members of the club on demos to make sure they are capable to present it to children.

Project/Activity/Event Timeline

Whenever we get the alloted money, I will order the proposed items and immediately incorperate them into our presentation. I will train the outreach committee memebers on the new items.

Activity Evaluation Plan

After our events we always hear from the teachers/organizers how much the kids enjoyed our demos, especially the liquid nitrogen and van de graff generator (some kids really enjoy getting getting a slight shock)

Budget Justification

The prices on the budget follow directly from the website linked where I found the demos. These are all needed for the demonstrations found on the webpage. Also included in the budget are roses for a liquid nitrogen demostration. We dip the rose petals in liquid nitrogen to show the petals shatter as if they were glass after being frozen.