CWSF 2011 - Toronto, Ontario

Cody Shaw

Mechanical Testing of Polyethylene

Challenge: Discovery
Category: Senior
Region: Manitoba Schools Science Symposium
City: Ste. Agathe, MB
School: Fort Richmond Collegiate

Abstract: Medium density polyethylene (MDPE) is a viscoelastic plastic used in a variety of applications. Engineers have comparatively little experience with MDPE. The goal of this project is to test the material properties of MDPE with repeatable, reliable tests. Results for MDPE show that Poisson's ratio is real (within experimental uncertainty) from 1 to 50 Hz, fracture toughness increases with temperature, and MDPE is non linear.

Biography

My name is Cody Shaw. I was born in Manitoba on June 2, 1993, and lived my life there so far. I have jumped from school to school, ranging from rural schools to my current city high school, Fort Richmond Collegiate. I have a very high standard for school subjects and classes that interest me, including Physics, Calculus, Chemistry and Computer Science. Some activities that I take part in outside of school other than extensive Science Fair work would be being a part of a charity group called "The Speed Gamers", who do lengthy video game marathons for various charities. To date, we have raised over $130,000. Another one of my large hobbies would be computers. I have built multiple high end "enthusiast" computers over my grade school life, mainly for gaming and entertainment purposes. I also spend a large amount of time following the Large Hadron Collider, as Theoretical Physics is one of my favourite interests. For my post secondary education, I plan on getting a double major in Particle Physics and Electrical Engineering, and then upgrading the EE major to a PhD, so that I can follow my dreams and maybe someday work along side the LHC.