Physics Department Seminar

Friday April 12th, 2013

11:00am in PhSc 105

TWO TALKS FOR THE PRICE OF ONE!

"Slipping and Tipping" and "Breaking Bats"

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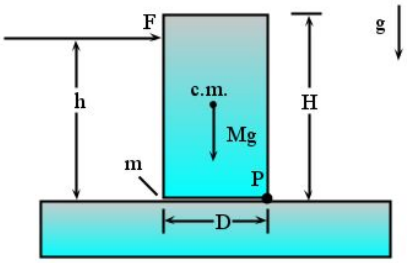
Gear Up Teacher

TeachBar

Graduate 2012

Abstracts:

Slipping and Tipping is a method that Dr. Eric Dietz devised to calculate the coefficient of friction. The method uses torque arguments to calculate the coefficient of friction unlike the traditional sum forces argument. I was given the task of testing the slipping and tipping method against a more traditional method (incline plane). Turns out the method works for calculating the coefficient of friction and all we needed to employ this technique was a straightedge. I will talk about the method and some of the challenges that arose.



Breaking Bats was a project that explored the idea that maple bats can exert more force on a ball then ash without failing. Players have been transitioning from ash to maple bat because of this belief. Transitioning from ash to maple is making broken bats more of an issue. The issue arises from the "failure mode" of each wood. While both produce a large projectile that can hurt players and fan maple seems to break with sharp edges. So now players and fans have to avoid sharp projectiles with maple. In our experiment we looked at the force needed to break the different dowels, the flexibility of the different woods and finally the failure modes of each wood. The results and our speculations about why players are making the transition to maple bats will be cover in my talk.