Physics Seminar

Auto Magic Flight

Travis Riggle
UNC Physics

Friday
April 2
3:30pm
Ross 0220

"Is that a bird?"
"No, it is a plane!"
"Actually, you are correct; it is a plane flying by its self!"

Technology has come so far in the last 30 years, from vacuum tubes to microcircuits, but can a set of microcircuits fly a plane? Better still can a set of microcircuits fly a very small plane? I am trying to find out. Model planes have been a hobby of mine for a long time, but it took me years to learn how to land on the runway. I would like to know if a computer can do what I do, or if it can do it better. Everybody and their dog is doing GPS waypoints, and using GPS for long range navigation. My goal is to do something a little more complicated. I want to teach a computer how to fly a pattern plane, or to hot rod through a pylon race. Something GPS just can not accomplish. How will I do it? Well, I will probably just wing it…

Physics Seminar

Effect of the front and rear weight distribution ratio of a Formula car during maximum-speed cornering on a circuit

Rob Shiely
UNC Physics

Friday
April 2
3:30pm
Ross 0220

In formula car racing every team tries to set up their car to run the shortest lap time possible. The three main variables that impact a formula car's lap time are: acceleration, braking, and cornering. In order to optimize acceleration and decrease braking distance, the weight of a formula car is made to be as low as possible. Due to the fact that the weight of a formula car is so low, weight distribution has a larger impact on the cornering abilities of these cars as compared to track cars in other classifications. Utilizing modern day physics modeling software the best hypothetical weight distribution for any given track can be calculated. In my talk I will discuss the reasoning behind why weight distribution is more important in these lightweight performance vehicles and the findings of researchers at Kogakuin University in Japan relating to this topic.