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GPS Tracking of a Roller Coaster. Preliminary report.

In many calculus textbooks, a main example for motivating student interest in the relationship between position, velocity and acceleration is the roller coaster. Typically, these examples are a roller coaster only in the most idealized sense. In an attempt to obtain a more realistic point of view, students from Monmouth College acquired position data for the Six Flags St. Louis roller coaster "The Boss" using a Global Positioning System (GPS) device. This talk will discuss the ups and downs involved in the data collection and curve fitting from their roller coaster rides and how the data is being used in first semester calculus. (Received September 20, 2009)