Title: Motorcycle Track Simulation

Problem Description: (NOTE: Computational only)

Rider and bike performance has peaked in MotoGP™ racing. Speeds in excess of 150 mph are reached on straightaways and well over 50 mph through corners (at lean angles of 60 degrees from vertical). The goals of this project are to 1) create a numerical simulator that can model a bike on a racetrack, 2) predict the loads on the bike, 3) optimize how the motorcycle is operated to improve race times, and 4) determine if modifications to the bike can further improve race times.

Sponsor: Erick Johnson