APPLIED MATHEMATICS COLLOQUIUM

CHALLENGES PREDICTING THE RELIABILITY AND PERFORMANCE OF GROUND VEHICLES

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ABSTRACT:

One reason the U.S. automotive industry has seen their market share drop over the last few decades is due the lack of vehicle reliability. Similarly for the military, the excessive costs of the operations, maintenance, and support of its ground vehicles is largely due to a lack of system reliability. Why does both the government and defense/commercial industry have so many problems managing these costs? One of the reasons for the difficulty is the complexity of predicting performance and reliability of a vehicle early in the design cycle, and over the vehicle's life. This talk will focus on the mathematical challenges of predicting a vehicle's reliability and performance, and how some are approaches these challenges. The discussion will include reliability-based design optimization, design under uncertainty, robustness, and methods of handling large data sets and models.

TUESDAY, FEBRUARY 6, 2007
4:30 PM
Building 2, Room 105

Refreshments at 4:00 PM in Building 4, Room 174
(Math Majors Lounge)

Applied Math Colloquium: http://www-math.mit.edu/amc/spring07
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