

SOCIETY OF PHYSICS STUDENTS (SPS) PRESENTS:

PHYSICS ALUMNI SERIES SEMINAR



**A new paradigm in robust
trajectory control for
particle accelerators**

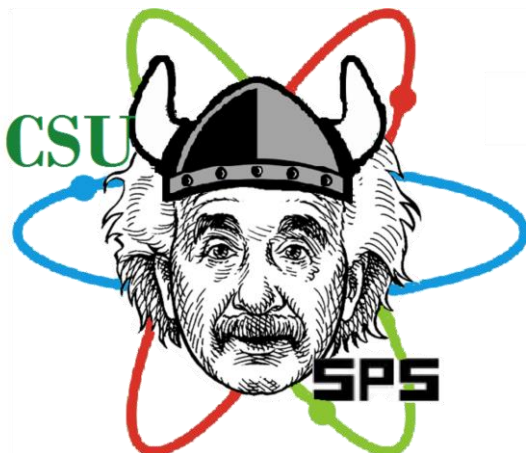
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At CERN, the boundaries of physics are constantly being pushed in trying to understand the formation of the universe. CERN (located in the outskirts of Geneva, Switzerland) is home to the Large Hadron Collider, the world's largest and most powerful particle accelerator. Accelerators boost beams of particles to high energies before the beams are made to collide with each other or with stationary targets. Therefore, it is imperative that proper control schemes are implemented in order to control the trajectories of these particles and optimize the overall system performance. As part of my research at the Swiss Federal Institute of Technology and CERN, it is of interest to implement a control scheme based on the H-Infinity criterion to control the particle trajectories. With this method, a convex optimization problem can be formulated to solve the H-Infinity criterion (i.e., minimize the norm of a desired sensitivity function). Thus far, this method seems to produce the proper tracking and stability requirements while maintaining suitable robustness margins.



WHERE: SR - 151

WHEN: 11:30am-12:15pm

THURSDAY, AUGUST 27, 2015

Pizza and Soda are provided!