



ME Graduate Seminar

Department of Mechanical Engineering
The University of New Mexico

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Friday, March 28, 2008 at 3:30 p.m. ME Bldg., Room 218

Radiation Detection and Mapping Using Mobile Robots

Abstract

Both in nuclear forensics and in emergency management after an accident or a deliberate attack, it is important to confirm the distribution of radiation levels over an area of interest as soon as possible, so that confident decisions can be made on the scene and rescue crews can be deployed safely and efficiently. In situations like these, autonomous mobile robots can be of use as a platform for portable radiation sensors.

We will look at how radiation based information theoretics can be used to coordinate and control a team of mobile robots equipped with radiation sensors for detection and mapping. Also we will look at the asymptotic behavior of the team and provide stability results of the control scheme.

Andres Cortez is currently a PhD student at the University of New Mexico where his research focuses on multi-robot coordination and control for radiation mapping and detection. Andres received his Masters in Mechanical Engineering from UNM in the fall of 2007. In 2005 he received his Bachelors of Science degree in Mathematics from New Mexico Highlands University.