



Mechanical and Aerospace Engineering Department
University of California Davis
Davis, California 95616-5294
<http://mae.ucdavis.edu/research/spaceEd/>

2013-2014 Monthly Seminar Series on Space Research

21 November, 20 February, 15 May
3rd Thursday 4:00-5:00 pm

Takagi-Sugeno Fuzzy Model-Based Control of Aerospace Vehicles

by

Professor Mohammad A Ayoubi

Department of Mechanical Engineering, Santa Clara University

Date: 20 February 2014 Thursday Time: 4:10-5:00 pm (Refreshments will be provided at 4:00 pm) Location: 1062 Bainer

ABSTRACT

Hosted by: Professor Fidelis Eke

The last decades have witnessed growing popularity of fuzzy control systems based on the Takagi-Sugeno model. Controllers of this type are capable of dealing with very complex problems and guarantee robustness, stability and good performance. Furthermore, they are simple and inexpensive to implement. The objective of this seminar is two-fold. First, we give an overview of conventional and Takagi-Sugeno (T-S) fuzzy control systems. In the second part, we present the recent performance results obtained by using T-S type fuzzy control systems in two aerospace applications: (1) spacecraft attitude and position control and vibration suppression in a flexible appendage during a retargeting maneuver, and (2) pitch control of a flexible aircraft with wing shape control structure.

ABOUT THE SPEAKER

Professor Ayoubi is an Assistant Professor in the Department of Mechanical Engineering at Santa Clara University. He graduated from the School of Aeronautics and Astronautics at Purdue University in 2007, after which he worked as a postdoctoral Research Associate with the Department of Aerospace and Ocean Engineering at Virginia Polytechnic Institute and State University (Virginia Tech). In 2008, he joined Santa Clara University. His general research interests are dynamics, controls, and optimization.

For more information about

SpaceED (Space Engineering Research and Graduate Program) or the seminars please contact Professor Nesrin Sarigul-Klijn, Director of SpaceED at (530)-752-0682 or nsarigulklijn@ucdavis.edu

The Space Engineering Research and Graduate Program (SpaceED) at University of California was founded in 2001

SpaceED seminar will replace MAE297 seminar on 3rd Thursdays.

Members of the campus community and visitors from the region are welcome to attend the seminar series.

Sign-in is required at the event.