
Electrical & Computer Engineering
S E M I N A R
Louisiana State University

**Tracking and Robustness Analysis
for UAVs with Bounded Feedbacks**

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Abstract—We study a kinematic model that is suitable for control design for high level formation flight of UAVs. We design controllers that give robust global tracking for a wide class of reference trajectories in the sense of input-to-state stability while satisfying given amplitude and rate constraints on the inputs. We illustrate our work in simulations.

Bio—Aleksandra Gruszka received her MS in applied probability and mathematical statistics from Uniwersytet Wrocławski in Poland, and is a doctoral candidate in systems and controls in the LSU mathematics department. Her research lies at the interface of applied mathematics and control engineering, focusing on the design of controllers for nonlinear models that ensure good controller performance under uncertainty in the sense of input-to-state stability and other important criteria. She received a Best Presentation in the Session award at the 2011 American Control Conference, and was selected as one of the 12 US graduate students who will present their research in the Association for Women in Mathematics sessions at the 2012 Joint Mathematics Meetings. She has served as a referee for the Asian Journal of Control and for Automatica.

When: Thursday, 1 December 2011, 14:00 - 15:00
Where: Room 117 EE Building
Info: <http://www.ece.lsu.edu/seminar>

