

1043-93-194

Rafal Goebel* (rgoebel1@luc.edu), Department of Mathematics and Statistics, Loyola University Chicago, 6525 N. Sheridan Road, Chicago, IL 60626. *Linear/conical approximation of hybrid dynamical systems*. Preliminary report.

Hybrid dynamical systems exhibit behaviors typical for continuous-time dynamical systems as well as for discrete-time dynamical systems. Hybrid inclusions model such systems through the combination of differential inclusions, difference inclusions, and constraints.

A fundamental result in dynamical systems theory concludes asymptotic stability for a differential or difference equation from asymptotic stability for its linear approximation. The talk will show how this result can be generalized to hybrid inclusions. (Received August 26, 2008)