# Synthesizing Stability Regions for Systems with Saturating Actuators

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This paper presents a method of synthesizing controllers for systems with input saturation that guarantees state space regions of attraction. While the computation of stability regions and the corresponding state feedback design has appeared recently in the control literature, the more realistic case of output feedback has not been addressed. This note provides a simple design technique using an LMI framework to produce controllers that maximize the region of stability for systems having limited control when only partial state information is available for measurement.