

## Numerical Algorithm for Nonsmooth Stabilization of Triangular Form Systems

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*Abstract:* The aim of this contribution is to present a simple method for finding nonsmooth stabilizers in cases when the smooth ones are not available. More precisely, we address the stabilization of a certain class of single-input nonlinear systems; namely, the class of systems that are state equivalent to the so-called singular triangular form. It is based on the formal application of the exact linearization scheme to the systems with linear part having noncontrollable unstable mode. Such a formal approach leads to the stabilizer possessing singularities and a regularization process is suggested to remove them. This approach is realized and tested by computer simulations for various nonlinear systems.

*Keywords:*

*AMS Subject Classification:*