

**The conference is supported by the
National Laboratory for Health Security project
RRF-2.3.1-21-2022-00006**

About stability of state-dependent delay equations

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There are almost no results in mathematical literature about exponential stability of state-dependent delay differential equations. One of the main purposes of this research is to fill this gap. An approach to study of stability of n -th order delay differential equations is proposed. On the basis of these results, new possibilities for stabilization by delay feedback input control are proposed.

Our research is the development of the ideas presented in the paper [1].

- [1] A. DOMOSHNIISKY, S. SHEMESH, A. SITKIN, E. YAKOVI, R. YAVICH, Stabilization of third-order differential equation by delay distributed feedback control, *J. Inequal. Appl.* (2018), 341. <https://doi.org/10.1186/s13660-018-1930-5>