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Jayant Singh* (jayant.singh@ndsu.edu). *A new method for Stability Analysis of Discrete time Recurrent Neural Networks.*

Recurrent Neural Networks (RNN) have diverse applications such as pattern recognition, artificial intelligence etc. So, it is imperative to address the stability problem of RNN. To date, various attempts have been made to develop stability criteria for discrete time RNN. Most of them are based on the classical results of theory of absolute stability, which is not very universal. We are trying to develop a stability criterion based on concept of Reduction of Dissipativity Domain (RODD). This approach has been tested with examples. (Received September 04, 2013)