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**Dmitriy Dmitrishin, Anna Khamitova and Alex Stokolos\***

(astokolos@georgiasouthern.edu), Department of Mathematics, Georgia Southern University, Statesboro, GA 30460. *On some applications of complex analysis in non-linear dynamics.*

We consider stability of equilibrium in a discrete autonomous dynamical system. The suggested method involves extremal polynomials of complex variable. The examples of applications include Hénon map, Burgers mapping, Arnold's Cat map, Ikeda map and several others. (Received January 03, 2016)