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Saber Elaydi*, One Trinity Place, San Antonio, TX 78212. *On the global stability of a class of discrete dynamical systems.* Preliminary report.

The question that we are investigating is when does local stability of a fixed point implies global stability. It is known in the literature that certain maps, both multi-dimensional and planar, behave in this way. These maps include triangular maps in higher dimension, the planar Ricker map, the multi-species Leslie-Gower model, and monotone maps in any dimension. The question that we are going to address is what class of maps, that are not monotone or triangular, for which local stability of a fixed point implies its global stability. Open problems and conjectures will be presented. (Received September 26, 2017)