1125-37-1734 **Gheorghe Craciun*** (craciun@math.wisc.edu). *Toric Differential Inclusions and a Proof of the Global Attractor Conjecture.*

The Global Attractor Conjecture says that a large class of polynomial dynamical systems, called *toric dynamical systems*, have a globally attracting point within each linear invariant space. In particular, these polynomial dynamical systems never exhibit multistability, oscillations or chaotic dynamics.

The conjecture was formulated by Fritz Horn in the early 1970s, and is related to convergence results for the Boltzmann equation.

We describe the history of this problem, including the relevance of this problem to the study of homeostasis in biological interaction networks. Then, we introduce *toric differential inclusions*, and discuss about how they can be used to prove this conjecture in full generality. (Received September 19, 2016)