1125-91-492   **Ngoc Mai Tran** and **Josephine Yu***, jyu@math.gatech.edu. *Product-Mix Auctions and Tropical Geometry.*

In a recent and ongoing work, Baldwin and Klemperer explored a connection between tropical geometry and economics. They gave a sufficient condition for the existence of competitive equilibrium in product-mix auctions of indivisible goods. This result, which we call the Unimodularity Theorem, can also be traced back to the work of Danilov, Koshevoy, and Murota. We will introduce auction theory, prove of the Unimodularity Theorem, and discuss special cases such as stable matching with transferable utility . (Received September 03, 2016)