1137-49-343 **Ebrahim Sarabi*** (sarabim@miamioh.edu), 410A E. Chestnut St., Oxford, OH 45056. *A Semismooth Inverse Mapping Theorem for $\mathcal{C}^{1+}$ Functions under Tilt Stability.*

Taking into account an unconstrained optimization problem with a $\mathcal{C}^{1+}$ objective function, we present a semismooth inverse mapping theorem for its tilt-stable local minimizers. Then we introduce a Newton method via the notion of the graphical derivative and will discuss its superlinear convergence for tilt-stable local minimizers of this problem. The talk is based on a joint work with Boris Mordukhovich. (Received February 06, 2018)