1046-49-51   **Mordukhovich Boris**, 656 W. Kirby, Detroit, MI 48202, and **Nguyen Mau Nam***
(`nguyenmn@utpa.edu`), 1201 W. University Dr., Edinburg, TX 78539. *Nonsmooth Analysis in Infinite Dimensions with Applications to Stability of Variational Systems.*

Differential calculus contains important mathematical tools used broadly in science and technology. However, major disadvantages of the classical differential calculus include the requirement on the differentiability of the initial data, while nonsmooth structures appear frequently and naturally in many mathematical and applied models. *Nonsmooth Analysis* refers to the study of generalized differential properties of sets, functions, and set-valued mappings with no differentiability requirements. In this talk we discuss new developments in nonsmooth analysis based on generalized differentiation of nonsmooth functions and mappings and then present a number of significant applications to sensitivity and Lipschitzian stability issues for constraint and variational systems. (Received July 12, 2008)