Boris Mordukhovich and Nguyen Mau Nam* (nguyenmn@utpa.edu), Department of Mathematics, 1201 W. University Dr., Edinburg, TX 78539. Subgradients of Marginal Functions in Parametric Optimization.

Marginal/value functions play a significant role in optimization and control theory. Because of their intrinsic nonsmooth feature, appropriate tools of generalized differentiation are required for the study of this class of functions and for their applications. In this talk we derive new results for computing and estimating subgradients of marginal functions in Banach spaces and specify these results for important classes of problems in parametric optimization with smooth and nonsmooth data. The results obtained allow us to establish new calculus rules of generalized differentiation as well as verifiable conditions ensuring robust stability in optimization problems. (Received June 22, 2008)