1016-49-29   **Boris Mordukhovich** (`boris@math.wayne.edu`), Department of Mathematics, Wayne State University, Detroit, MI 48202, and **Mau Nam Nguyen*** (`nam@math.wayne.edu`), Department of Mathematics, Wayne State University, Detroit, MI 48202. *Generalized differentiation of set-valued mappings and marginal functions with some applications.*

Robust Lipschitzian properties of set-valued mappings and marginal functions play a crucial role in many aspects of variational analysis and its applications, especially for issues related to variational stability and optimization. We will present an approach to variational stability based on generalized differentiation. The talk contains new generalized differential calculus for set-valued mappings and marginal functions in infinite dimensions. The results obtained are applied to derive *exact calculus* of Fréchet subgradients and to establish sufficient conditions which guarantee the Lipschitzian stability of set-valued mappings and marginal functions in mathematical programming. (Received January 10, 2006)

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