

Rockafellar's Theorem on Relative Interiors of Convex Graphs

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The notion of relative interior for convex sets in finite-dimensional spaces was largely developed by Rockafellar in his seminal monograph "Convex Analysis" as a refinement of the classical notion of interior. In this talk we present a simple proof of a theorem by Rockafellar for representing relative interiors of convex graphs of set-valued mappings in terms of relative interiors of its domain and function values. We also present new formulas for representing *quasi-relative interiors* of convex graphs of set-valued mappings and convex epigraphs of extended-real-valued functions defined on locally convex topological vector spaces.

(This talk is based on joint work with B. Mordukhovich and D.V. Cuong).