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Elena Constantin* (constane@pitt.edu), University of Pittsburgh-Johnstown, Mathematics Department, 450 Schoolhouse Road, Johnstown, PA 15904. *Higher-Order Necessary Conditions in Nonsmooth Set Constrained Optimization.*

The goal of this talk is to give some higher-order necessary conditions of extremum for a nonsmooth optimization problem with an arbitrary set constraint in terms of contingent vectors and of interior directions to the constrained set at the extremum point using the directional derivatives of higher-order in Ginchev sense. Illustrative examples are presented. (Received August 08, 2011)