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**Bao Q TRUONG\*** ([btruong@nmu.edu](mailto:btruong@nmu.edu)), Presque Isle Avenue, Department of Mathematics & Computer Science, Northern Michigan University, Marquette, MI 49855. *Necessary nondomination conditions in multiobjective optimization with variable ordering structures*. Preliminary report.

In this talk we study the concept of nondomination in problems of multiobjective optimization with variable ordering structures, which reduces to Pareto efficiency when the ordering structure is constant/nonvariable. Based on advanced tools of variational analysis and generalized differentiation, we develop verifiable necessary conditions for nondominated solutions to multiobjective optimization problems with general geometric constraints that are new in both finite and infinite dimensions. Many examples are provided to illustrate and highlight the major features of the obtained results. (Received September 16, 2013)