1003-34-937 **Elena Constantin*** (`constane@math.ohiou.edu`), Ohio University, Department of Mathematics, 321 Morton Hall, Athens, OH 45701. *An Applications of Higher Order Tangent Cones to Flow-invariance.* Preliminary report.

The goal of this talk is to give some necessary and sufficient conditions for the flow-invariance of a subset $S = G^{-1}(0) = \{x \in X,\, G(x) = 0\}$ of a Banach space X with respect to the n-th order autonomous differential equation

$$u^{(n)} = F(u(t)),\ t \geq 0,$$

where $G : U \to \mathbb{R}^m$, $m \geq 1$, is a n times Fréchet differentiable mapping on an open subset U of X, $n \geq 3$, and $F : U \to X$ is a locally Lipschitz mapping. (Received October 01, 2004)

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