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**Pavel Shvartsman\*** ([pshv@tx.technion.ac.il](mailto:pshv@tx.technion.ac.il)), Department of Mathematics, Technion - Israel Institute of Technology, 32000 Haifa, Israel. *Lipschitz selections and extensions of smooth functions.*

We identify the space of  $k$ -times differentiable functions on  $R^n$  with a space of *Lipschitz* mappings from  $R^n$  into the space of  $k$ -jets supplied with a certain metric. This allows us to reformulate the Whitney extension problem as a Lipschitz selection problem for set-valued mappings into the family of all convex finite-dimensional subsets of the space of  $k$ -jets. We will discuss Helly-type criteria for the existence of Lipschitz selections and the phenomenon of “finiteness” in Whitney’s extension problem. (Received September 20, 2005)