**Zhao, Y. X.**; **Wang, S. Y.**; **Coladas Uria, L.**; **Mishra, S. K.**

**A derivative for semipreinvex functions and its applications in semipreinvex programming.**

(English) Zbl 1247.90253

Mishra, Shashi Kant (ed.), Topics in nonconvex optimization. Theory and applications. Selected papers based on the presentations at the advanced training programme on nonconvex optimization and applications, Varanasi, India, March 22–26, 2010. New York, NY: Springer (ISBN 978-1-4419-9639-8/hbk; 978-1-4419-9640-4/ebook). Springer Optimization and Its Applications 50, 79-86 (2011).

Summary: A directional derivative concept is introduced to develop Fritz-John and Kuhn-Tucker conditions for the optimization of general semipreinvex functions. The relationship between the optimization problem and the corresponding semiprevariational inequality problem is also shown.

For the entire collection see [Zbl 1216.90003].

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