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**Behnam Soleimani\*** ([behnam.soleimani@mathematik.uni-halle.de](mailto:behnam.soleimani@mathematik.uni-halle.de)), Institute of Mathematics, Halle, 06099, and **Christiane Tammer**. *Vectorial Ekeland's variational principle with respect to the variable order structure.*

There are many generalization of Ekeland's variational principle for vector optimization problem with fix order structure. Here, we present a generalization of Ekeland's variational principle for vector optimization problem with respect to variable order structure. First, we introduce concepts for approximate minimal, approximate nondominated solutions and approximate minimizers of vector optimization problems with respect to a variable order structure. The different concepts for approximate solutions are illustrated by several examples. Variational principles for vector optimization problems with variable order structure are derived. Finally, we give some necessary conditions for approximate solutions of vector optimization problems with variable order structure. (Received September 17, 2013)