

ICRAMCS 2026

THE EIGHTH EDITION OF THE INTERNATIONAL CONFERENCE ON
RESEARCH IN APPLIED MATHEMATICS AND COMPUTER SCIENCE
April 23-24-25, 2026 | Marrakech, Morocco



Sequential Upper Approximation Method for Solving Multiobjective Optimization Problems

Communication Info

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Keywords:

- (1) Multiobjective minimization
- (2) Successive upper approximation methods
- (3) Nonconvex optimization

Abstract

We develop a general algorithm for solving constrained multiobjective optimization problems[1,2]. Our approach builds on the sequential upper approximation method already used in the framework of scalar optimization, in which a nonlinear optimization problem is solved by solving a sequence of simpler problems where the objective and constraint functions upper estimate those of the original problem[3,4]. For a broad class of problems, we show that every cluster point of the sequence generated by our algorithm satisfies KKT-type conditions expressed in terms of directional derivatives.

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