A NEW METHOD FOR SOLVING NONLINEAR
MULTIOBJECTIVE OPTIMIZATION
PROBLEMS

Kounhinir Somé, Berthold Ulungu, Ibrahim Himidi Mohamed and
Blaise Somé

Abstract

In literature, there exist many metaheuristics giving a “good” approximation
of the Pareto optimal set $E(P)$, but many of them have not been established
with theoretical foundation. In this work, we propose a new method called
Multiobjective Alienor Metaheuristic (MOMA) method which has a
theoretical foundation and give good approximation of $E(P)$. We have
solved ten multiobjective optimization problems with MOMA and six other
classical efficient metaheuristics, a numerical comparison of the obtained
results show clearly that MOMA results are better than those given by these
classical metaheuristics.

Keywords and phrases: metaheuristics, Alienor method, nonlinear multiobjective
optimization, weighted metric.

Received September 28, 2011

References

[1] Mohsen Ejday, Optimisation multi-objectif à base de métamodèle pour le procédés de

problem, the travelling selsman problem and IMRT optimization, Thesis of Doctorat,
University of Mons, Belgique, 2010.

Non Steady 3D Metal Forming Applications, 7th Euromech Solid Mechanics

l’Université de Ouagadougou, Burkina Faso, 2008.


