

# Direct search for linearly constrained global optimization using different search steps

In this talk we address the derivative-free global optimization of functions subject to bound and linear constraints, using different techniques in the search step of direct-search methods.

A first approach is the use of particle swarm for dissemination of points in the feasible region.

A second technique consists of using models based on radial basis functions (RBFs). Here, we also study the application of algorithms based on dc programming (difference of convex functions) for the minimization of the RBF models subject to simple bounds on the variables.

Extensive numerical results are reported with a test set of bound and linearly constrained problems.

This is a joint work with *Luis Nunes Vicente* and *Le Thi Hoai An*.