

A derivative-free method for nonlinear programming

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In this talk we discuss a derivative-free method for constrained continuous optimization. We consider problems in which the derivatives of the objective function are not available. At each iteration we construct a model of the objective function based on polynomial interpolation as proposed by Powell in BOBYQA algorithm. The constraints are treated in the trust region subproblems which are solved by the ALGENCAN algorithm proposed by Andreani, Birgin, Martínez and Schuvedt. The analysis of the global convergence of the algorithm is one of our tasks. We present some preliminar numerical experiments.