

Dedicated to Professor Ion PĂVĂLOIU on his 60th anniversary

**ON THE INEXACT UZAWA METHODS FOR
SADDLE POINT PROBLEMS
ARISING FROM CONTACT PROBLEM**

Nicolae POP

Abstract. In this paper we consider the so called "inexact Uzawa" algorithm for solving saddle point systems which arise in the discretization of contact problems. By using appropriate Lagrangeanes one can transform the original problem (the contact problem), into a saddle point problem on a convex set.

The inexact Uzawa methods replace the exact inverse of a matrix A by a "incomplete" or "approximate" evaluation of A^{-1} .

We discuss convergence and applications of inexact Uzawa methods to solving the contact problems.