

1107-90-81

**Florian A Potra\*** (potra@umbc.edu), Department of Mathematics and Statistics, University of Maryland, Baltimore County, 1000 Hilltop Circle, Baltimore, MD 21250. *Interior point methods for sufficient weighted complementarity problems.*

The introduction of the notion of a weighted complementarity problem (wCP) was motivated the fact that wCP can model more general equilibrium problems than the classical complementarity problem (CP). Such a problem depends on a nonnegative weight vector. If the weight vector is zero, the problem reduces to a sufficient linear CP that has been extensively studied. The presence of a nonzero weight vector makes the theory of wCP more complicated than the theory of CP. We give a characterization of sufficient linear wCP and present a corrector-predictor interior point method for its numerical solution. While the proposed algorithm does not depend on the handicap  $\kappa$  of the problem its computational complexity is proportional with  $1 + \kappa$ . If the weight vector is zero and the starting point is relatively well centered, then the computational complexity of our algorithm is the same as the best known computational complexity for solving sufficient linear CP. (Received December 31, 2014)