

AUXILIARY PRINCIPLE TECHNIQUE FOR SOLVING REGULARIZED NONCONVEX MIXED EQUILIBRIUM PROBLEMS

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Abstract. In this paper, we introduce a regularized nonconvex mixed equilibrium problem and suggest iterative algorithms for solving such a problem by using the auxiliary principle technique. The convergence analysis of the proposed iterative algorithms is discussed either under pseudomonotonicity or partially mixed relaxed and strong monotonicity of type (I) property of the bifunctions involved in the formulation. We also point out some fatal errors in [M.A. Noor et al.: On nonconvex bifunction variational inequalities. *Optim. Lett.* **6**, 1477-1488 (2012)] and [M.A. Noor et al.: Some iterative methods for solving nonconvex bifunction equilibrium variational inequalities. *J. Appl. Math.* Volume 2012, Article ID 280451]. Finally, we present the correct version of the results presented in these references.

Key Words and Phrases: Regularized nonconvex mixed equilibrium problems, predictor-corrector algorithms, auxiliary principle technique, prox-regularity, nonconvex sets, convergence analysis.

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