

## On systems of extended primal-dual variational inequalities

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### Abstract

We consider a system of variational inequalities, which can be regarded as an extension of a primal-dual variational inequality system and involves multi-valued mappings. This problem has a great number of applications in Economics, Operations Research, Mathematical Physics and other fields. We suggest this problem to be converted into a single variational inequality with constraints. The latter problem is proposed to be solved by splitting-type methods, whose convergence is proved under monotonicity assumptions. © 2012 Copyright Taylor and Francis Group, LLC.

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### Keywords

equivalent transformation, multi-valued mappings, splitting-type methods, variational inequalities