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## Descent method for monotone mixed variational inequalities

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### Abstract

We consider mixed variational inequalities involving a non-strictly monotone, differentiable cost mapping and a convex nondifferentiable function. We apply the Tikhonov-Browder regularization technique to these problems. We use uniformly monotone auxiliary functions for constructing regularized problems and apply the gap function approach for the perturbed uniformly monotone variational inequalities. Then we propose a combined regularization and descent method for initial monotone problems and establish convergence of its iteration sequence. Keywords. Variational inequalities, nonsmooth functions, descent methods © 2008 Springer-Verlag.

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### Keywords

Descent methods, Nonsmooth functions, Variational inequaities