SHAWN WANG, University of British Columbia Okanagan

Self-dual Regularization of Monotone Operators via the Resolvent Average

We give two self-dual regularization of maximal monotone operators on Hilbert spaces. These regularization and their set-valued inverse are strongly monotone, single-valued and Lipschitz with full domain. Moreover, these regularization graphically converges to the original monotone operator. If a maximal monotone operator has nonempty zeros, these self-dual regularization can be used to find its least norm solution. When the maximal monotone operator is the subdifferential of a proper lower semicontinuous convex function with nonempty minimizers, this translates to find the least norm minimizer.