

Explicit and efficient error estimation for convex minimization problems

We combine a systematic approach for deriving general a posteriori error estimates for convex minimization problems on the basis of convex duality arguments with a recently derived generalized Marini formula. The resulting a posteriori error estimates are essentially constant-free and apply to a large class of variational problems including the p -Dirichlet problem, as well as degenerate minimization, obstacle and image de-noising problems. For the p -Dirichlet problem, the a posteriori error bounds are equivalent to classical residual type a posteriori error bounds and, hence, reliable and efficient.