WEAK SHARP MINIMA ON RIEMANNIAN MANIFOLDS

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This is the first paper dealing with the study of weak sharp minima for constrained optimization problems on Riemannian manifolds, which are important in many applications. We consider the notions of local weak sharp minima, boundedly weak sharp minima, and global weak sharp minima for such problems and obtain their complete characterizations in the case of convex problems on finite-dimensional Riemannian manifolds and their Hadamard counterparts. A number of the results obtained in this paper are also new for the case of conventional problems in linear spaces. Our methods involve appropriate tools of variational analysis and generalized differentiation on Riemannian and Hadamard manifolds developed and efficiently implemented in this paper.