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Optimization Methods on Riemannian Submanifolds

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Abstract - We study the type of constrained programming problems:

$$\min_{x \in M} f(x), \tag{1}$$

where $(N,\widetilde{g}\ )$ denote an m-dimensional Riemannian manifold, M a Riemannian submanifold in N, g the metric tensor induced by $\widetilde{g}$ on M and $f : N \to R$ a smooth function. The rezult obtained is used in some Riemannian problems like the study of the distance between two manifolds, of the extremes of sectional curvature and is applied successfully in the proof of the Chen inequality.
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