Summary: We consider the energy of smooth generalized distributions and also of singular foliations on compact Riemannian manifolds for which the set of their singularities consists of a finite number of isolated points and of pairwise disjoint closed submanifolds. We derive a lower bound for the energy of all $q$-dimensional almost regular distributions, for each $q < \dim M$, and find several examples of foliations which minimize the energy functional over certain sets of smooth generalized distributions.

MSC:

53C20 Global Riemannian geometry, including pinching
53C10 G-structures
53C12 Foliations (differential geometric aspects)
53C15 General geometric structures on manifolds (almost complex, almost product structures, etc.)

Keywords:
generalized distribution; singular foliation; mixed scalar curvature; energy of distributions; tubular and radial foliations; compact rank-one symmetric spaces

Full Text: DOI

References:


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