

We introduce a notion of quasiconvexity for integrands defined on the tangent bundle of a Riemannian manifold. We prove that this condition characterizes the sequential lower semicontinuity of the associated integral functionals with respect to the weak^{*} topology of $W^{1,\infty}$, generalizing the classical Euclidean results by Morrey and Acerbi--Fusco.

Moreover, we also extend the notions of polyconvexity and rank-one convexity to this context and establish the hierarchy between polyconvexity, quasiconvexity, and rank-one convexity, as in the Euclidean setting.

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