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Zahra Sinaei*, sinaei@math.umass.edu. *Convex functional and the stratification of the singular set of their stationary points.*

In this talk, I discuss partial regularity of stationary solutions and minimizers u from a set $\Omega \subset \mathbb{R}^n$ to a Riemannian manifold N , for the functional $\int_{\Omega} F(x, u, |\nabla u|^2) dx$. The integrand F is convex and satisfies some ellipticity, boundedness and integrability assumptions. Using the idea of quantitative stratification I show that the k -th strata of the singular set of such solutions are k -rectifiable. (Received September 14, 2019)