

Title: Quasilinear elliptic equations on Finsler manifolds

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Abstract: The theory of Sobolev spaces on complete Riemannian manifolds is well understood and widely applied into the study of various elliptic problems. Although Finsler geometry is a natural extension of Riemannian geometry, very little is known about Sobolev spaces on non-compact Finsler manifolds. Motivated by this wide interest in the literature, the leading purpose of this talk is to present some recent results on non-compact Randers spaces and their applications to quasilinear elliptic equations. The main approach is based on novel abstract Sobolev embedding results as well as on some variational and topological methods developed in the recent book *Nonlinear Problems with Lack of Compactness*, De Gruyter Series in Nonlinear Analysis and Applications 36 (2021), co-authored with P. Pucci.