

## GEOMETRY SEMINAR

**The  $\kappa$ -nullity of Riemannian manifolds and their splitting tensors****Felippe Guimarães**

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**Abstract.** We consider Riemannian  $n$ -manifolds  $M$  with nontrivial  $\kappa$ -nullity “distribution” of the curvature tensor  $R$ , namely, the variable rank distribution of tangent subspaces to  $M$  where  $R$  coincides with the curvature tensor of a space of constant curvature  $\kappa$  ( $\kappa \in \mathbb{R}$ ) is nontrivial. We obtain classification theorems under different additional assumptions, in terms of low nullity/conullity, controlled scalar curvature or existence of quotients of finite volume. We prove new results, but also revisit previous ones. (Joint work with Claudio Gorodski).