

## PSEUDO-RIEMANNIAN JACOBI-RICCI COMMUTING MANIFOLDS

ABSTRACT. We exhibit several families of Jacobi-Ricci commuting pseudo - Riemannian manifolds which are not Einstein, and we exhibit Jacobi-Ricci commuting algebraic curvature tensors where the Ricci operator defines an almost complex structure. We classify algebraic curvature tensors such that the Ricci operator  $\rho$  is simple (i.e.  $\rho$  is complex diagonalizable and  $\text{Spec}\{\rho\} = \{a\}$  or  $\text{Spec}\{\rho\} = \{a_1 \pm a_2\sqrt{-1}\}$  ) and which are Jacobi-Ricci commuting (i.e.  $\rho\mathcal{J}(v) = \mathcal{J}(v)\rho$  for all  $v$ ).

This is a joint work with Peter B.Gilkey.