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Soft restrictions on positively curved Riemannian submersions

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The main difficulty when studying positively curved manifolds is the small number of known examples. At the present state of knowledge, Riemannian submersions are necessary in their construction: starting with the correct manifold with nonnegative sectional curvature as total space, one searches for some submersion that would guarantee a positively curved basis thanks to the well-known O'Neill formula. However, this is not so easily done, pointing out to the possible presence of restrictions for the existence of such Riemannian submersions from an arbitrary nonnegatively curved manifold. In this talk we bound the dimension of the fiber of a Riemannian submersion from a positively curved manifold in terms of the dimension of the base of the submersion and its conjugate radius.

Referencias

[1] González-Álvaro, D.; Guijarro, L.: Soft restrictions on positively curved Riemannian submersions. , *To appear in The Journal of Geometric Analysis.* DOI 10.1007/s12220-015-9596-4.

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