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Benjamin Schmidt* (schmidt@math.msu.edu). *Spherical Rank Rigidity*. Preliminary report.

Let M denote a complete Riemannian manifold with $sec \geq 1$. The manifold M has positive spherical rank if along every complete geodesic in M there is a parallel normal vector field making extremal curvature one with the geodesic. The compact rank one symmetric spaces (and their quotients) give examples of manifolds with $sec \geq 1$ and positive spherical rank. It is unknown whether these are all examples. I'll discuss work in progress with R. Shankar and R. Spatzier concerning this problem. (Received August 08, 2010)