

[Herzlich, M.](#)

Extremality for the Vafa-Witten bound on the sphere. (English) [Zbl 1137.53334](#)
[Geom. Funct. Anal. 15, No. 6, 1153-1161 \(2005\).](#)

Summary: We prove that the round metric on the sphere has the largest first eigenvalue of the Dirac operator among all metrics that are larger than it. As a corollary, this gives an alternative proof of an extremality result for scalar curvature due to M. Llarull.

MSC:

[53C27](#) Spin and Spin^c geometry

[53C21](#) Methods of global Riemannian geometry, including PDE methods; curvature restrictions

[58C40](#) Spectral theory; eigenvalue problems on manifolds

Cited in **4** Documents

Full Text: [DOI](#) [arXiv](#)