



Bifurcation and local rigidity of homogeneous solutions to the Yamabe problem on spheres

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We study existence and non-existence of constant scalar curvature metrics conformal and arbitrarily close to homogeneous metrics on spheres, using variational techniques. This describes all critical points of the Hilbert-Einstein functional on such conformal classes, near homogeneous metrics. Both bifurcation and local rigidity type phenomena are obtained for 1-parameter families of $U(n+1)$, $Sp(n+1)$ and $Spin(9)$ -homogeneous metrics.

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