

# Maximization of the second Laplacian eigenvalue on the sphere

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The second nonzero eigenvalue of the Laplacian on  $S^m$  becomes maximal as the surface degenerates to two disjoint spheres, by a result of Nadirashvili for which Petrides later gave another proof. This talk builds on recent developments on the hyperbolic center of mass to simplify the proof, yielding also the analogous result in higher dimensions.