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ON THE BEHAVIOR OF THE FIRST EIGENVALUE OF THE SPHERICAL LAPLACIAN OPERATOR ON A SPHERICAL ANNULUS

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Abstract. In this paper, we show that the first Dirichlet eigenvalue of spherical Laplacian operator on a spherical annulus with fixed area and outer disk is decreasing while the inner disk moving towards the boundary, which is an analogy of [5]. Moreover, with [7], we conclude that: among all annuli on S^2 with fixed area, the sphereical band which is symmetric to the equator has the largest first Dirichlet eigenvalue.

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