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Upper Bound on the Second Laplacian Eigenvalue on the Real Projective Space

In this talk, I prove an upper bound on the second non-zero Laplacian eigenvalue on *n*-dimensional real projective space. The sharp result for 2-dimension was shown by Nadirashvili and Penskoi and later by Karpukhin when the metric degenerates to that of the disjoint union of a round projective space and a sphere. That conjecture is open in higher dimensions, but I will prove it up to a constant factor that tends to 1 as the dimension tends to infinity. Also, I will also talk about calculating the degree of a map on odd-dimensional spheres with the reflection symmetry property.