

CONCENTRATION AND GROWTH OF LAPLACE EIGENFUNCTIONS

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In this talk we will discuss a new approach to understanding eigenfunction concentration. We characterize the distribution of L^2 mass along geodesic tubes emanating from a point that causes an eigenfunction to saturate the standard supremum bounds. We also show that the phenomena behind extreme supremum norm growth is identical to that underlying extreme growth of eigenfunctions when averaged along submanifolds. Using this description of concentration, we obtain quantitative improvements on known growth bounds in a wide variety of settings.