

**DEFECT MEASURES FOR EIGENFUNCTIONS WITH
MAXIMAL L^∞ GROWTH**

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We study the relationship between L^∞ growth of eigenfunctions and their L^2 concentration as measured by defect measures. In particular, we characterize the scarring defect measures of any sequence of eigenfunctions with maximal L^∞ growth, showing that they must be neither more concentrated nor more diffuse than the zonal harmonics.