John A Toth* (jtoth@math.mcgill.ca) and Jeffrey Galkowski. Eigenfunction scarring and improvements in \( L^\infty \) bounds.

We study the relationship between \( L^\infty \) growth of eigenfunctions and their \( L^2 \) concentration as measured by defect measures. In particular, we show that scarring in the sense of concentration of defect measure on certain submanifolds is incompatible with maximal \( L^\infty \) growth. In addition, we show that a defect measure which is too diffuse, such as the Liouville measure, is incompatible with maximal eigenfunction growth. (Received July 12, 2017)