

Meeting: 1003, Atlanta, Georgia, SS 30A, AMS Special Session on Analysis Problems in Modern Physics, I

1003-58-858 **John A Toth*** (jtoth@math.mcgill.ca), McGill University, Dept. of Mathematics and Statistics, Montreal, QC H3A 2K6, Canada. *Eigenfunction asymptotics for quantum integrable systems.*

Let (M, g) be a compact, closed Riemannian manifold with Laplacian $P_1 = -\Delta_g$, which is assumed to be quantum completely integrable. We will present recent results (joint with S. Zelditch) on the asymptotic L^p blow-up properties of the L^2 -normalized eigenfunctions, ϕ_λ , as the eigenvalue $\lambda \rightarrow \infty$. If time permits, we will also discuss some results (also joint with S. Zelditch) on the asymptotic distribution of zeros of the ϕ_λ 's. (Received September 30, 2004)