



## Analysis and PDE Seminar

October 26, 2022

3:00 - 4:00 p.m.

PH 385

### Quantitative unique continuation for $L^2$ -restrictions of eigenfunction sequences

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**Abstract.** Let  $(M, g)$  be a  $C^\infty$  compact, Riemannian manifold and  $u_h \in C^\infty(M)$  be a sequence of  $L^2$ -normalized Laplace eigenfunctions with  $(-h^2\Delta_g - 1)u_h = 0$ . Let  $H \subset M$  be a smooth hypersurface. In the terminology of Zelditch and Toth, the hypersurface  $H$  is *good* relative to the sequence  $u_h$  if there exist constants  $h_0(H), C_H > 0$  such that for all  $h \in (0, h_0(H)]$ ,

$$\int_H |u_h|^2 d\sigma_H \geq e^{-C_H/h}.$$

In the talk, I will describe some recent results (joint with Yaiza Canzani) on goodness of hypersurfaces relative to eigenfunction sequences and give some applications to nodal sets of eigenfunction sequences.