1167-37-297   **Yakir Forman***, yakir.forman@yale.edu, and **Tom VandenBoom**. *Localization and Cantor spectrum for C^2 quasi-periodic one-dimensional discrete Schrödinger operators.* Preliminary report.

A discrete Schrödinger operator $H_V = \varepsilon\Delta + V$ on $\ell^2(\mathbb{Z})$ is called Anderson localized if it exhibits a basis of exponentially decaying eigenvectors. If V_n is sampled from a potential function by Diophantine rotations on the one-dimensional torus, H_V is known to be almost-surely Anderson localized for sufficiently small ε if the potential is either analytic, or cosine-like and symmetric. In this talk, we discuss a new perturbative proof of almost-sure localization for Schrödinger operators with potential sampled from any C^2-smooth Morse function with two monotonicity intervals along a Diophantine rotation orbit on the circle. (Received March 09, 2021)