SPEAKER:

Martin Gebert, UC Davis

TITLE:

Lifshitz tails for the fractional Anderson model

ABSTRACT:
We consider the fractional Anderson model $(-\Delta)^a + V_\omega$ on $\ell^2(\mathbb{Z}^d)$ with $0 < a < 1$. Here $-\Delta$ is the discrete negative Laplacian and V_ω is the standard random potential consisting of iid random variables appearing in the Anderson model. We show that the integrated density of states of this model exhibits Lifshitz tails at the lower edge of the spectrum with Lifshitz exponent $d/(2a)$. We also comment on extensions of the latter to more general operators and open problems.