SABINE BÖGLI (IMPERIAL COLLEGE LONDON, UK)

SCHRÖDINGER OPERATOR WITH NON-ZERO ACCUMULATION POINTS OF COMPLEX EIGENVALUES

In the 1960s Pavlov studied Schrödinger operators on the half-line with potentials that decay at infinity, subject to Robin boundary conditions at the endpoint. Using inverse spectral theory, he proved the existence of a real potential and a non-selfadjoint boundary condition so that the Schrdinger operator has infinitely many non-real eigenvalues that accumulate at an arbitrary prescribed point of the essential spectrum (the positive half-line). Since then, it has been an open question whether these results can be modified so that the non-selfadjointness is not coming from the boundary conditions but from a non-real potential. In this talk we consider Schrdinger operators on the whole Euclidean space (of arbitrary dimension) or on the half-space, subject to real Robin boundary conditions. I will present the construction of a non-real potential that decays at infinity so that the corresponding Schrdinger operator has infinitely many non-real eigenvalues accumulating at every point of the essential spectrum.