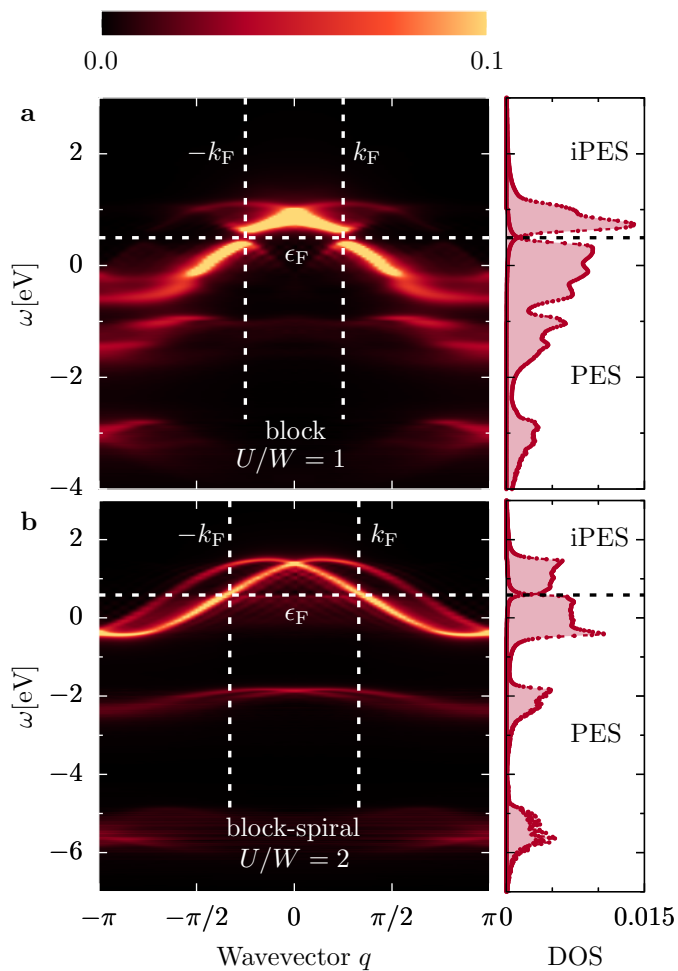


generalized Kondo-Heisenberg model



two-orbital Hubbard model

