

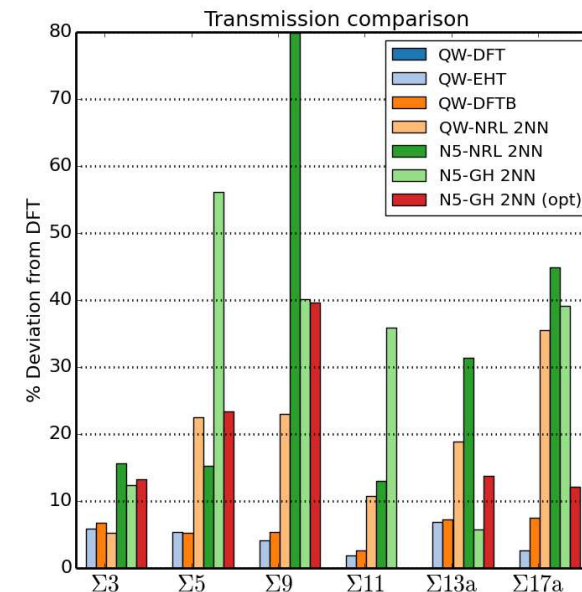
Motivation

- Grain boundary scattering dominant in ultra-scaled metal interconnects
- Evaluate available Hamiltonian models to study GB scattering in several Σ structures
- Assess combined effect of phonon and GB scattering

Approach

- Quantum transport with TB, Extended Huckel, DFTB and DFT approaches
- Phonon scattering treated with simple elastic scattering model

Results



- Extended Huckel approach shown to be a good compromise between model accuracy and computational cost
- Phonon and GB scattering shown to be additive in nanoscale GB structures.