

Objective:

Verify scattering implementation in NEMO5 with comparisons to Fermi's golden rule and experimental mobility

Problem:

Since NEMO5 uses bulk phonons, scattering rates for bulk systems can be compared to Fermi's golden rule

Approach:

- Comparison of NEMO5 acoustic and optical phonon scattering to Fermi's golden rule
- Extract mobility from low electric field of bulk Silicon from NEGF simulations.

Results/Impact:

- Excellent agreement with Fermi's golden rule for both acoustic and optical phonon scattering in NEMO5
- Phonon-limited mobility extracted from NEMO5 agrees with bulk experimental values for low to medium doping concentrations

