# Overview of phonon transport in NEMO5

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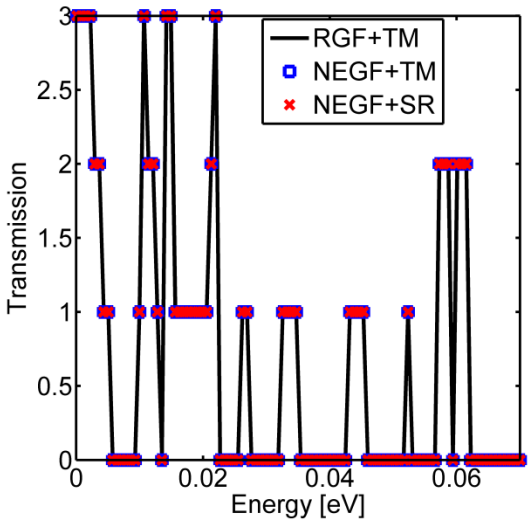
**Objectives**:

- Implement phonon Büttiker probe in NEMO5
- Choose proper transport models
- Enable phonon transport with different methods

**Challenges**:

- Should understand all transport models
- Couple the strain solver with propagation class

**Result**:



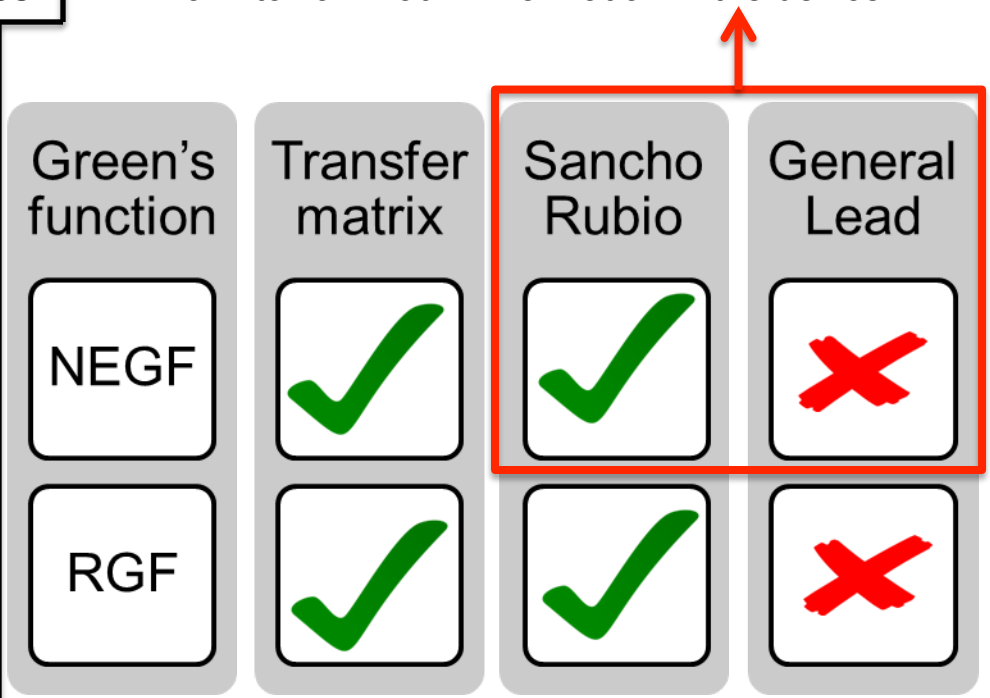

*TM: Transfer matrix*
*SR: Sancho Rubio*
*Nanowire:6x1x1 (unit cells)*

Different transport methods are enabled in NEMO5.

**Overview of phonon transport inNEMO5**:

For phonon Büttiker probe simulation, Sancho Rubio +NEGF and General Lead+NEGF are 2 possible choices for:

- Transfer matrix cannot give flat particle density with scattering in both leads and device.
- Buettiker probe model needs the whole Hamiltonian matrix information in the device.




Choose proper transport models for different aims.