

## Objective:

Validate scattering implementation in NEMO5

## Problem:

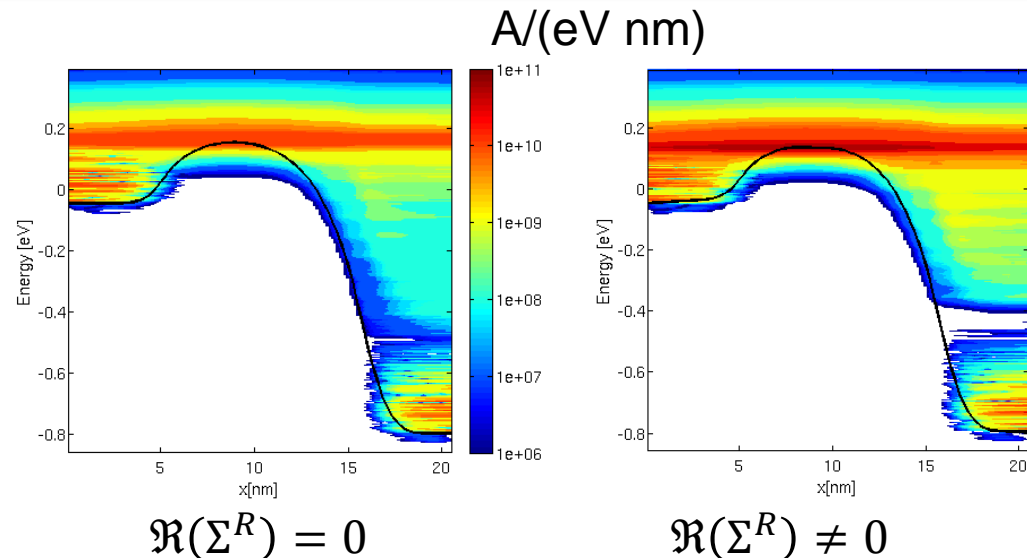
Current increases in the off state of a nanowire or UTB when scattering is included. This is contrary to typical results in literature.

## Results/Impact:

- Found difference between literature and NEMO5 due to literature's approximation that the retarded scattering self-energies  $\Re(\Sigma^R) = 0$
- Shown  $\Re(\Sigma^R)$  contributes to phonon-assisted tunneling

## Approach:

- Evaluate derivation and approximations made for electron-phonon scattering implementation.
- Investigate differences between typical literature and NEMO5's implementation.



Spectral current for 3 nm Si UTB in off-state