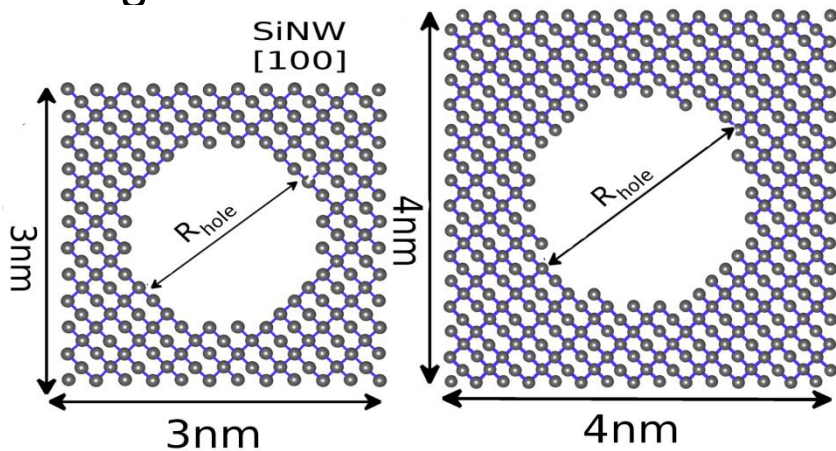


Objective: Tunability of lattice thermal conductance (k_l) using porous nanowires.

Approach:

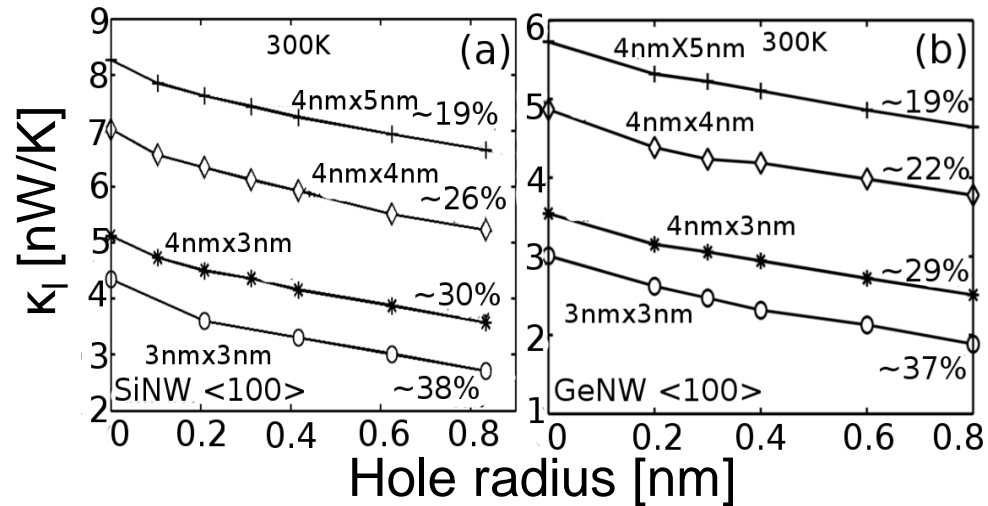
1. Obtain phonon dispersion in hollow nanowires using Modified VFF model...
2. Calculate thermal conductance using Landauer's model.



Hollow Silicon nanowires

Results:

- Reduction in lattice thermal conductance as high as 30% obtained by 20% atom removal.
- Weak material dependence, Si and Ge nanowires show similar reduction.
- Mode reduction and phonon localization associated with reduction in lattice thermal conductance.



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