**Objective:**
- Calculate phonons in bulk and nanostructures using atomistic valence-force-field (VFF) models
- Zincblende or Wurtzite lattices
- Coulomb interaction is important for optical branches

**Approach:**
- Recycle 2nd derivative of VFF strain calculation for dynamical matrix → same physics
- Include Coulomb interaction using Ewald summation
- Do genetic algorithm fitting to find parameters (with M. Salmani)

**Results / Impact:**
- Models easily switchable in input deck
- Improved anharmonic model: both physical validity and numerical convergence

Bulk phonon dispersion for GaN in wurtzite phase calculated using Keating VFF + Coulomb