Trilinos/Belos

- Ability to solve single or sequence of linear systems
  - Simultaneously solved systems w/ multiple-RHS: \( AX = B \)
  - Sequentially solved systems w/ multiple-RHS: \( AX_i = B_i, \, i=1,...,t \)
  - Sequences of multiple-RHS systems: \( A_iX_i = B_i, \, i=1,...,t \)

- Standard methods
  - Conjugate Gradients (CG), GMRES
  - TFQMR, BiCGStab, MINRES, fixed-point

- Advanced methods
  - Block GMRES, block CG/BICG
  - Hybrid GMRES, CGRODR (block recycling GMRES)
  - TSQR (tall skinny QR), LSQR

- Ongoing research
  - Communication avoiding methods
  - Pipelined and s-step methods

Iterative Krylov-based solvers. C++ permits one implementation that supports multiple scalar types and thread-parallel programming models.


https://trilinos.github.io/belos.html