

1 Matrix Collection

Set of widely used set of sparse matrix benchmarks collected from a wide range of applications. Link: <https://sparse.tamu.edu/>

2 Free Linear Algebra Software

<http://www.netlib.org/utk/people/JackDongarra/la-sw.html>

http://www.netlib.org/lapack/#_presentation

CG using Jacobi preconditioner:

<https://www.npmjs.com/package/conjugate-gradient>

Iterative methods library:

<https://math.nist.gov/iml++/>

3 CG

Github repository: High Performance Computing Conjugate Gradients: The original Mantevo miniapp

<https://github.com/Mantevo/HPCCG>

- Generates a 27-point finite difference matrix with a user-prescribed sub-block size on each processor
- Code compiles with MPI support and can be run on one or more processors
- Input: nx, ny, nz are the number of nodes in the x, y and z dimension respectively on a each processor. The global grid dimensions will be nx, ny and numproc * nz. In other words, the domains are stacked in the z direction.

4 B-CG

Paper: An Implementation of Block Conjugate Gradient Algorithm on CPU-GPU Processors

Link to paper:

<https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=7017966>