

PHYS405
Advanced Computational Physics
Parallel Computing

Assignment # 6
Due: Friday, November 19, 2010

Purpose: Learn how to implement Gauss-Siedel in parallel.

Note: Please identify all your work.

This assignment consists in building your own parallel code to generate the solution of Poisson equation. The Gauss-Siedel and the SOR algorithm is explained in the course web pages. The steps toward a parallel code are also explained.

Start from the code *p.c.* The link is below this assignment on the web. Implement the parallel version. Pay particular attention to minimize communications...

1. Produce a correct code in parallel
2. Instrument both the sequential and parallel codes for timing
3. Find the time dependence of both codes on the *grid size*
4. How efficient is your parallel version

Use grid sizes 64, 128, 256, 512 in answering the questions above