Programming Techniques 2024-2025

Course exercise 3
distributed dynamical simulation using Barnes-Hut and MPI

Hannu Parviainen

Universidad de la Laguna

November 6, 2024

Exercise: Distributed numerical integration of a system consisting of gravitationally interacting particles using the leapfrog integration method and Barnes-Hut algorigthm.

- ▶ See TAP p. 37-47 and p. 74-85

To do

- ▶ Write a distributed version of the exercise 2 code using MPI.
- ▶ Describe how the code works (in general) in the readme.md file.
- ▶ Communicate and collaborate with other students using GitHub.
  - ▶ Learn from each other.
  - ▶ Read and comment each other's pull requests.
  - ▶ Discuss problems and challenges using issues.