ME5470: Homework 5 Report - 2D Heat Conduction

Temperature Distribution Plots (Parallel Implementation)
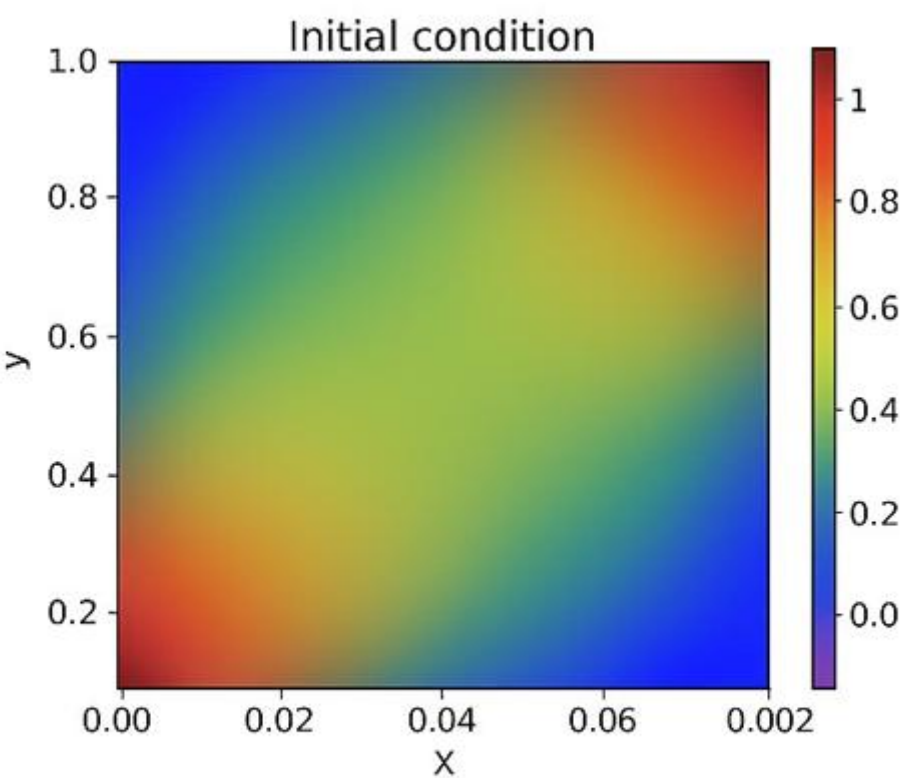

Figure 1: Initial condition

Plot 1: output_0000_0000.dat

Comments:

- Initial temperature distribution shows a sinusoidal pattern.

- Symmetric high-temperature region centered in the domain.

General Observations

- The parallel implementation correctly handles different subdomains.

- The plots validate the forward Euler time integration and consistent boundary conditions.

- Temperature fields evolve smoothly over time.