

CMSE 822 Final Project - 2D Burgers

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1 Introduction

Hyperbolic PDEs are useful for various physical phenomena.

- Acoustics, electromagnetic, fluid motion, etc.

- Linear vs non linear

- Advection equation

- Burgers' equation

- Use viscous Burgers' equation to remove limiters

- Look at 2nd and 4th order using finite difference

2 Methodology

Investigate 2D Burgers' in c++ using OpenMP

- Look at strong vs weak scaling, cache blocking

3 Future Work

Investigate using Kokkos

- Stepping stone to k-athena