Adaptive Mesh Refinement

1D Hyperbolic Problems

S. Sinha[1] K. J. Roche[1,2]

[1]Department of Applied Mathematics
University of Washington

[2]High Performance Computing
Pacific Northwest National Laboratory

Presentation to AM574, Prof. R. J. Leveque presiding

Main References for this Talk I

M. Berger and R. Leveque
Adaptive Mesh Refinement Using Wave-Propagation Algorithms for Hyperbolic Systems
SIAM J. Numer. Anal., 35(6):2298–2316, 1998.

M. Berger
Adaptive Mesh Refinement for Hyperbolic Partial Differential Equations
PhD Thesis, Department of Computer Science, Stanford University, Stanford, CA 94305, 1982.

Talk Outline

- Overview of Berger and Leveque AMR paper
- wave propagation formulation
- etc.

Figure Example

The question is how does beamerclass place this ???

$N_xN_yN_z$	N_{wf}	Mem	CPU comp.+ comm.	CPU comp.	GPU comp.+ comm.	GPU comp.	of GPUs	speedup
48^3	110592	10 TB	3.9s	2.4s	0.39s	0.23s	6912	10
64^3	262144	56 TB	20s	9.1s	0.80s	0.48s	16384	25

Example of columns 1

Contents of the first column

Contents split
into two lines

This is the second slide

A bit more information about this

Source code

[caption=First C example] int main() printf("Hello World!"); return 0;