

Adaptive Mesh Refinement

1D Hyperbolic Problems

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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 ???

$N_x N_y N_z$	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;