## ForestClaw : Adaptive, multi-block methods on mapped grids

**ForestClaw** is a parallel, multi-block library for adaptive library for solving PDEs on adaptively refined logically Cartesian meshes.

Some of the features of ForestClaw are :

- 1. Based on the highly scalable grid management library p4est.
- 2. Multi-block capabilities extends the usefulness of Cartesian mesh methods to many important domains, including the cubed sphere, and non-square rectangular regions.
- 3. **Quad-tree** adaptive meshing means that less meta is stored on each processor, and nearest-neighbors are easy to find.
- 4. Cartesian grid layout of each patch and regular neighbor patterns greatly simplifies the development of novel numerical methods.



## Shock hitting a low density bubble



AMRClaw : Level 1 : 32x8; Refinement ratios : (4,4,2).



**ForestClaw**: 4x1 multi-block domain; Levels 0-5; 8x8 grids

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Multi-block and "brick" domains keep cell sizes close to uniform.





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www.forestclaw.org

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