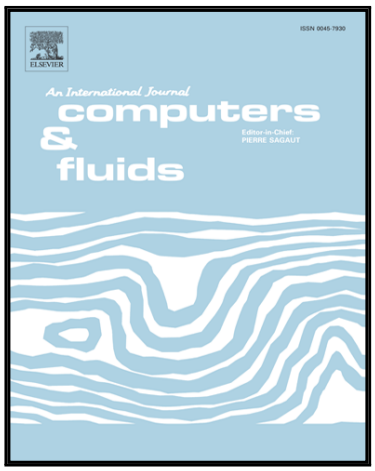

High–Performance Multi–GPU Solver for Describing Nonlinear Acoustic Waves in Homogeneous Thermoviscous Media

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Highlights

- A multi-GPU 3-d solver for modeling ultrasound in thermoviscous media is presented.
- The proposed algorithm is based on WENO-Z and third-order Runge-Kutta schemes.
- A new multi-GPU communication scheme for the Runge-Kutta scheme is developed.
- The optimization process used in developing a single- and a multi-GPU solver is detailed.
- Simulations using single and multiple GPUs were performed to illustrate the method.