

Publication List: Jonathan Dursi

Refereed Publications

- C. Pfrommer, **L. J. Dursi**. *Detection of magnetic field orientations in galaxy clusters*, submitted, 2009
- S. Kitsionas, *et. al.*, *Algorithmic comparisons of decaying, isothermal, compressible turbulence. I. Low-resolution simulations with fixed grids*, *A&A* 508:541, Dec 2009
- L. J. Dursi**, C. Pfrommer. *Draping of Cluster Magnetic Fields over Bullets and Bubbles: Morphology and Dynamic Effects*, *ApJ* 677:993, Apr 2008
- L. J. Dursi**. *Bubble Wrap for Bullets: The Stability Imparted by a Thin Magnetized Layer*, *ApJ* 670:221–230, Nov 2007.
- M. Zingale, **L. J. Dursi**. *Propagation of the First Flames in Type Ia Supernovae*, *ApJ* 656:333–346, Feb 2007 .
- L. J. Dursi**, F. X. Timmes. *Local Ignition in Carbon/Oxygen White Dwarfs – I: One-zone Ignition and Spherical Shock Ignition of Detonations*, *ApJ*, 641:1071–1086, April 2006.
- A. Alexakis, A. C. Calder, **L. J. Dursi**, R. Rosner, J. W. Truran, B. Fryxell, M. Zingale, F. X. Timmes, P. Ricker, and K. Olson, *On the Nonlinear Evolution of Wind-Driven Gravity Waves*, *Physics of Fluids*, 16:3256–3268, Sept 2004.
- L. J. Dursi**, *The Effect of Magnetic Fields on the Linear Stability of Flames*, *ApJ*, 606:1039–1056, May 2004.
- Guy Dimonte, *et. al.*, *A Comparative Study of the Turbulent Rayleigh-Taylor Instability using High-Resolution Three Dimensional Simulations: The Alpha-Group collaboration*. *Physics of Fluids*, 16:1668–1693, May 2004.
- A. Alexakis, A. C. Calder, A. Heger, E. F. Brown, **L. J. Dursi**, J. W. Truran, R. Rosner, D. Q. Lamb, F. X. Timmes, B. Fryxell, M. Zingale, P. M. Ricker, and K. Olson. *On Heavy Element Enrichment in Classical Novae*. *ApJ*, 602:931–937, Feb 2004.
- K. Robinson, **L. J. Dursi**, P. M. Ricker, R. Rosner, A. C. Calder, M. Zingale, J. W. Truran, T. Linde, A. Caceres, B. Fryxell, K. Olson, K. Riley, A. Siegel, and N. Vladimirova. *Morphology of Rising Hydrodynamic and Magnetohydrodynamic Bubbles from Numerical Simulations*. *ApJ*, 601(2):621–643, February 2004.
- L. J. Dursi**, M. Zingale, A. C. Calder, B. Fryxell, F. X. T. Timmes, N. Vladimirova, R. Rosner, A. Caceres, D. Q. Lamb, K. Olson, P. M. Ricker, K. Riley, A. Siegel, and J. W. Truran. *The Response of Model and Astrophysical Thermonuclear Flames to Curvature and Stretch*. *ApJ*, 595(2):955–979, October 2003.
- A. C. Calder, **L. J. Dursi**, B. Fryxell, T. Plewa, V. G. Wiers, T. Dupont, H. F. Robey, R. P. Drake, B. A. Remington, G. Dimonte, J. Hayes, J. M. Stone, P. M. Ricker, F. X. Timmes, M. Zingale, and K. Olson. *Issues with Validating an Astrophysical Simulation Code*. *CiSE*, 6(5):10–20, September 2004.
- M. Zingale, **L. J. Dursi**, J. ZuHone, A. C. Calder, B. Fryxell, T. Plewa, J. W. Truran, A. Caceres, K. Olson, P. Ricker, K. Riley, R. Rosner, A. Siegel, F. X. Timmes, and N. Vladimirova. *Mapping Initial Hydrostatic Models in Godunov Codes*. *ApJSS*, 143(2):539–566, December 2002.
- A. C. Calder, B. Fryxell, T. Plewa, R. Rosner, **L. J. Dursi**, V. G. Weirs, T. Dupont, H. F. Robey, J. O. Kane, B. A. Remington, R. P. Drake, G. Dimonte, M. Zingale, F. X. Timmes, K. Olson, P. Ricker, P. MacNeice, and H. M. Tufo. *On Validating an Astrophysical Simulation Code*. *ApJSS*, 143:201–229, November 2002.
- B. Fryxell, M. Zingale, F. X. Timmes, D. Q. Lamb, K. Olson, A. C. Calder, **L. J. Dursi**, P. Ricker, R. Rosner, J. W. Truran, P. MacNeice, and H. Tufo. *Numerical Simulations of Thermonuclear Flashes on Neutron Stars*. *Nu-*

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M. Zingale, F. X. Timmes, B. Fryxell, D. Q. Lamb, K. Olson, A. C. Calder, **L. J. Dursi**, P. Ricker, R. Rosner, P. MacNeice, and H. M. Tufo. *Helium Detonations on Neutron Stars*. *ApJSS*, 133:195–220, March 2001.

F. X. Timmes, M. Zingale, K. Olson, B. Fryxell, P. Ricker, A. C. Calder, **L. J. Dursi**, H. Tufo, P. MacNeice, J. W. Truran, and R. Rosner. *On the Cellular Structure of Carbon Detonations*. *ApJ*, 543:938–954, November 2000.

A. C. Calder, B. C. Curtis, **L. J. Dursi**, B. Fryxell, G. Henry, P. MacNeice, K. Olson, P. Ricker, R. Rosner, F. X. Timmes, H. M. Tufo, J. W. Truran, and M. Zingale. *High-Performance Reactive Fluid Flow Simulations Using Adaptive Mesh Refinement on Thousands of Processors*. In *Proceedings of Supercomputing 2000*, 2000.

R Rosner, A. Calder, **L. J. Dursi**, B. Fryxell, D. Q. Lamb, J. C. Niemeyer, K. Olson, P. Ricker, F. X. Timmes, J. W. Truran, H. Tufo, Y.-N. Young, M. Zingale, E. Lusk, and R. Stevens. *Flash Code: Studying Astrophysical Thermonuclear Flashes*. *CiSE*, 2(2):33–41, March 2000.

X. Shi, L. M. Widrow, and **L. J. Dursi**, *Measuring Hubble's Constant in our Inhomogeneous universe*. *MNRAS*, 281:565–578, July 1996.

Selected Recent Contributed Publications

K. Kratter, **L. J. Dursi**, U.-L. Pen. *Global Simulations of the Magnetorotational Instability in a Spherical Geometry* In 2006 AAS/AAPT Joint Meeting, American Astronomical Society Meeting 209, 2006.

L. J. Dursi, M. Zingale. *Efficiency Gains from Time Refinement on AMR Meshes and Explicit Timestepping*. In *Adaptive Mesh Refinement - Theory and Applications*., Springer-Verlag, 2005.

L. J. Dursi, A. C. Calder, A. Alexakis, J. W. Truran, M. Zingale, B. Fryxell, P. Ricker, F. X. Timmes, and K. Olson. *Onset of Convection on a Pre-Runaway White Dwarf*. In *Classical Nova Explosions: International Conference on Classical Nova Explosions*. American Institute of Physics, 2002

A. C. Calder, A. Alexakis, **L. J. Dursi**, R. Rosner, J. W. Truran, B. Fryxell, P. Ricker, M. Zingale, K. Olson, F. X. Timmes, and P. MacNeice. *Mixing by Non-linear Gravity Wave Breaking on a White Dwarf Surface*. In *Classical Nova Explosions: International Conference on Classical Nova Explosions*. American Institute of Physics, 2002

M. Zingale, J. C. Niemeyer, F. X. Timmes, **L. J. Dursi**, A. C. Calder, B. Fryxell, D. Q. Lamb, P. MacNeice, K. Olson, P. M. Ricker, R. Rosner, J. W. Truran, and H. M. Tufo. *Quenching Processes in Flame-Vortex Interactions*. In *20th Texas Symposium on relativistic astrophysics*, pages 490+, 2001.

A. C. Calder, B. Fryxell, R. Rosner, **L. J. Dursi**, K. Olson, P. M. Ricker, F. X. Timmes, M. Zingale, P. MacNeice, and H. M. Tufo. *Simulations of Astrophysical Fluid Instabilities*. In *20th Texas Symposium on relativistic astrophysics*, pages 484+, 2001.

A. C. Calder, B. Fryxell, R. Rosner, J. Kane, B. A. Remington, H. Robey, P. Keiter, R. P. Drake, J. Knauer, **L. J. Dursi**, K. Olson, P. M. Ricker, F. X. Timmes, M. Zingale, H. Tufo, and P. MacNeice. *Astrophysically Relevant Instabilities at a Decelerating Interface*. In *American Physical Society, 42nd Annual Meeting of the APS Division of Plasma Physics* pages 1078P+, October 2000.