



**8TH INTERNATIONAL WORKSHOP
ON THE
PHYSICS OF COMPRESSIBLE
TURBULENT MIXING**

December 9 – 14, 2001

**CALIFORNIA INSTITUTE OF TECHNOLOGY
PASADENA, CALIFORNIA, USA**

PROGRAM SUMMARY



International Workshop on the Physics of Compressible Turbulent Mixing



**The 8th IWPCTM
is hosted by the
Lawrence Livermore National Laboratory
and is co-hosted by the
California Institute of Technology[†]**

**All oral sessions and discussions will be held in the
Beckman Institute Auditorium**

**Poster sessions will be held in the
Winnett Lounge and Club Room**

[†]Partial financial support was generously provided by the
California Institute of Technology

TRANSPORTATION

Buses depart from the Pasadena Hilton to campus
at 7:45 Monday – Friday, December 10 – 14.

Buses depart from campus to the Pasadena Hilton
at 17:50 Monday – Thursday, December 10 – 13,
and at 12:15 on Friday, December 14.

REFRESHMENTS

Refreshments will be available at 8:00 and at breaks
Monday – Friday, December 10 – 14.

SUNDAY, DECEMBER 9, 2001

17:00 – 21:00 Registration
Pasadena Hilton

18:00 – 21:00 Reception
Pasadena Hilton

Guest Speaker: **E. I. Moses**
 NIF Project Manager
 (Lawrence Livermore National Laboratory)

MONDAY, DECEMBER 10, 2001

8:15 – 8:30

Welcome and Opening Remarks:
S. Koonin / O. Schilling

Experimental Session I

Chair: H. F. Robey

(Lawrence Livermore National Laboratory)

8:30 – 9:30

Review Talk:
A Review on RT and RM Instability and TM Experiments
J.-F. Haas and S. G. Zaytsev (Commissariat à l'Energie Atomique and Krzhizhanovsky Power Engineering Institute)

9:30 – 9:50

The Influence of Scaling for Periodical Perturbations on Development of Turbulent Mixing on a Gas-Liquid Interface (E7)
M. Bliznetsov, E. Meshkov, N. Nevmerzhitsky, A. Nikulin, E. Sen'kovsky, and E. Sotskov (Russian Federal Nuclear Center-VNIIEF)

9:50 – 10:10

Experimental Study Into Rayleigh-Taylor Turbulent Mixing Zone Heterogeneous Structure (E31)
Yu. A. Kucherenko, A. P. Pylaev, V. D. Murzakov, A. V. Belomestnih, V. N. Popov, and A. A. Tyaktev (Russian Federal Nuclear Center-VNIITF)

10:10 – 10:30

Rayleigh-Taylor Instability at a Tilted Interface in Incompressible Laboratory Experiments and Compressible Numerical Simulations (E14)
J. M. Holford, S. B. Dalziel, and D. L. Youngs (Cambridge University and Atomic Weapons Establishment)

10:30 – 10:50

Break: Beckman Institute (courtyard)

Experimental Session II

Chair: J.-F. Haas

(Commissariat à l'Energie Atomique)

10:50 – 11:10

Measurements of Turbulence Correlations in Low Atwood Number Rayleigh-Taylor Mixing (E32)
P. Ramaprabhu and M. J. Andrews (Texas A & M University)

11:10 – 11:30 Experimental Investigations of the Self-Similar Mixing Mode of Different Density Gases in the Earth's Gravitational Field (E28)
Yu. A. Kucherenko, O. E. Shestachenko, Yu. A. Puskunov, E. V. Sviridov, V. M. Medvedev, and A. I. Baishev (Russian Federal Nuclear Center – VNIITF)

11:30 – 11:50 Mix Experiments Using a Two Dimensional Convergent Shock Tube (E13)
D. A. Holder, C. Barton, and A. V. Smith (Atomic Weapons Establishment)

12:00 – 13:15 Lunch: Winnett Lounge

Experimental Session III

Chair: J. W. Jacobs

(University of Arizona)

13:15 – 13:35 The Evolution and Interaction of Two Shock-Accelerated Unstable Gas Cylinders (E40)
C. Tomkins, K. Prestridge, P. Rightley, C. A. Zoldi, and R. Benjamin, (Los Alamos National Laboratory)

13:35 – 13:55 PLIF Flow Visualization of a Shock-Accelerated Air/SF₆ Interface (E18)
J. W. Jacobs and V. V. Krivets (University of Arizona, Tuscon)

13:55 – 14:15 Shock Tube Experiments on Richtmyer-Meshkov Instability Across a Chevron Profiled Interface (E39)
A. V. Smith, D. A. Holder, C. J. Barton, A. P. Morris, and D. L. Youngs (Atomic Weapons Laboratory)

14:15 – 14:35 Study of Diverging and Converging Spherical Shock Waves Induced by Micro Explosives and Their Interaction with Product Gases (E15)
S. H. R. Hosseini and K. Takayama (Tohoku University)

14:35 – 14:55 Break: Beckman Institute (courtyard)

Experimental Session IV

Chair: K. Budil

(Lawrence Livermore National Laboratory)

- 14:55 – 15:15 The Dependence of the Shock Induced Richtmyer-Meshkov Instability on Dimensionality and Density Ratio (T35)
A. Yosef-Hai, O. Sadot, D. Kartoon, D. Oron, E. Sarid, G. Ben-Dor, and D. Shvarts (Ben-Gurion University, Nuclear Research Center, Negev)
- 15:15 – 15:35 Effects of High Initial Amplitudes and High Mach Numbers on the Evolution of the RM Instability: II. Experimental Study (E36)
O. Sadot, A. Yosef-Hai, A. Rikanati, D. Oron, G. Ben-Dor, and D. Shvarts (Nuclear Research Center, Negev and Ben-Gurion University)
- 15:35 – 15:55 Experimental Study of a Strongly-Shocked Gas Interface With Visualized Initial Conditions (E27)
J. G. Oakley, M. H. Anderson, and R. Bonazza (University of Wisconsin, Madison)
- 15:55 – 16:15 Compressible Vortex Rings (E8)
M. Brouillette and C. Hébert (Université de Sherbrooke)
- 16:15 – 17:45 General Poster Session: Winnett Lounge and Club Room**

TUESDAY, DECEMBER 11, 2001

- 8:15 – 8:30 Announcements: O. Schilling
- Experimental Session V**
Chair: T. A. Peyser
(Lawrence Livermore National Laboratory)
- 8:30 – 9:30 Review Talk: The Experimental Study of Excitation and Development of the Hydrodynamic Instability in the Mixing Zone Separating Gases of Different Densities at their Accelerated Motion
S. G. Zaytsev (Krzhizhanovsky Power Engineering Institute)
- 9:30 – 9:50 Compressible Hydrodynamics on the Omega Laser, Motivated by Astrophysics (E10)
R. P. Drake, P. Keiter, K. E. Korreck, K. Dannenberg, H. F. Robey, T. Perry, J. O. Kane, B. A. Remington, R. J. Wallace, O. A. Hurricane, D. D. Ryutov, J. Knauer, R. Teyssier, A. Calder, R. Rosner, B. Fryxell, D. Arnett, Y. Zhang, J. Glimm, N. Turner, J. Stone, R. McCray, and J. Grove (University of Michigan, Lawrence Livermore National Laboratory, University of Rochester, Laboratory for Laser Energetics, Commissariat à l'Energie Atomique, University of Chicago, University of Arizona, State University of New York, Stony Brook, University of Maryland, University of Colorado, and Los Alamos National Laboratory)
- 9:50 – 10:10 Improvements to Convergent Cylindrical Plasma Mix Experiments Using Laser Direct Drive (E4)
C. W. Barnes, S. H. Batha, A. M. Dunne, N. E. Lanier, G. R. Magelssen, T. J. Murphy, K. W. Parker, S. Rothman, J. M. Scott, and D. Youngs (Los Alamos National Laboratory and Atomic Weapons Establishment)
- 10:10 – 10:30 The Interaction of Supernova Blast Waves with Interstellar Clouds: Experiments on the OMEGA Laser (E42)
R. I. Klein, H. Robey, T. Perry, and J. Greenough (Lawrence Livermore National Laboratory and University of California, Berkeley)
- 10:30 – 10:50 Break: Beckman Institute (courtyard)**

Experimental Session VI

Chair: G. Dimonte

(Lawrence Livermore National Laboratory)

- 10:50 – 11:10 An Experimental Study of the Effect of Shock Proximity on the Richtmyer-Meshkov Instability at High Mach Number (E12)
S. G. Glendinning, D. G. Braun, M. J. Edwards, W. W. Hsing, B. F. Lasinski, H. Louis, J. Moreno, T. A. Peyser, B. A. Remington, H. F. Robey, E. J. Turano, C. P. Verdon, and Y. Zhou (Lawrence Livermore National Laboratory)
- 11:10 – 11:30 A Vortex Model for Studying the Effect of Shock Proximity on Richtmyer-Meshkov Instability at High Mach Number (E46)
H. F. Robey and S. G. Glendinning (Lawrence Livermore National Laboratory)
- 11:30 – 11:50 Laser-Based High Pressure, High Strain-Rate Solid-State Experiments (E19)
D. H. Kalantar, J. Belak, J. D. Colvin, M. Kumar, K. T. Lorenz, K. O. Mikaelian, S. Pollaine, B. A. Remington, S. V. Weber, L. G. Wiley, A. M. Wiley, A. Loveridge-Smith, J. S. Wark, and M. A. Myers (Lawrence Livermore National Laboratory, Oxford University, and University of California, San Diego)

12:00 – 13:15 Lunch: Winnett Lounge

Computational Session I

Chair: T. L. McAbee

(Lawrence Livermore National Laboratory)

- 13:15 – 13:35 A Comparison of High-Resolution 3D Numerical Simulations of Turbulent Rayleigh-Taylor (RT) Instability: Alpha-Group Collaboration (C10)
G. Dimonte, A. Dimits, S. Weber, D. L. Youngs, A. C. Calder, B. Fryxell, J. Biello, L. Dursi, P. MacNiece, K. Olson, P. Ricker, R. Rosner, F. Timmes, H. Tufo, Y.-N. Young, M. Zingale, M. J. Andrews, P. Ramaprabhu, S. Wunsch, C. Garasi, and A. Robinson (Lawrence Livermore National Laboratory, Atomic Weapons Establishment, University of Chicago, NASA Goddard Space Flight Center, Texas A & M University, and Sandia National Laboratories)

- 13:35 – 13:55 Study of Turbulent Gravitational Mixing at Large Density Differences Using Direct 3D Numerical Simulation (C44)
Yu. V. Yanilkin, V. P. Statsenko, S. V. Rebrov, N. I. Selchenkova, O. G. Sin'kova, A. L. Stadnik, and A. Ya. Uchayev (Russian Federal Nuclear Center – VNIIEF)
- 13:55 – 14:15 Numerical Methods for Determination of Mix (C11)
S. Dutta, E. George, J. Glimm, J. Grove, X. Li, A. Marchese, D. H. Sharp, Z. Xu, and Y. Zhang (State University of New York, Stony Brook, Los Alamos National Laboratory, and Brookhaven National Laboratory)
- 14:15 – 14:35 Effects of High Initial Amplitudes and High Mach Numbers on the Evolution of the RM Instability: II. Experimental Study (E36)
O. Sadot, A. Yosef-Hai, A. Rikanati, D. Oron, G. Ben-Dor, and D. Shvarts (Nuclear Research Center, Negev and Ben-Gurion University)
- 14:35 – 14:55 Break: Beckman Institute (courtyard)**
- Computational Session II**
Chair: H. Takabe
(Osaka University)
- 14:55 – 15:15 Numerical Investigation of a Laser Induced Turbulent Mixing Zone (C35)
P. Seytor and M. Legrand (Commissariat à l'Energie Atomique)
- 15:15 – 15:35 Development and Validation of a 2D Turbulent Mix Model (C46)
D. L. Youngs (Atomic Weapons Establishment)
- 15:35 – 15:55 Computational Modeling of Low-Mach-Number High-Atwood-Number Turbulent Mixing (C4)
Wm. T. Ashurst and A. R. Kerstein (Sandia National Laboratories)
- 15:55 – 16:15 Simulation of a Shock-Accelerated Gas Cylinder and Comparison with Experimental Images and Velocity Fields (C50)
C. A. Zoldi, K. Prestridge, P. M. Rightley, and R. F. Benjamin (Los Alamos National Laboratory and State University of New York, Stony Brook)

16:15 – 17:45 Experimental Discussion: Beckman Institute Auditorium

**Computational and Theoretical Poster Session:
Winnett Lounge**

WEDNESDAY, DECEMBER 12, 2001

8:15 – 8:30 Announcements: O. Schilling

Computational Session III

Chair: J. Glimm

(State University of New York, Stony Brook)

8:30 – 9:30 Review Talk:
Review of Numerical Simulation of Mixing due to Rayleigh-Taylor and Richtmyer-Meshkov Instabilities

D. L. Youngs (Atomic Weapons Establishment)

9:30 – 9:50 Transition Stages of Rayleigh-Taylor Instability Between Miscible Fluids (C56)

A. W. Cook and P. E. Dimotakis (Lawrence Livermore National Laboratory and California Institute of Technology)

9:50 – 10:10 Application of a Laser Shock Tube for the Study of Supersonic Gas Flows and the Development of Hydrodynamic Instabilities in Layered Media (C25)

I. G. Lebo and V. D. Zvorykin (Technical University MIREA and P. N. Lebedev Physical Institute)

10:10 – 10:30 Shock-Planar Curtain Interactions: Strong Secondary Baroclinic Deposition and the Emergence of Coherent and Random Vortex Projectiles (VPs) and Decaying Stratified Turbulence (C48)

S. Zhang and N. J. Zabusky (Rutgers University)

10:30 – 10:50 Break: Beckman Institute (courtyard)

Computational Session IV

Chair: J. Grove

(Los Alamos National Laboratory)

10:50 – 11:10 One-Dimensional Simulation of the Effects of Unstable Mix on Neutron and Charged-Particle Yield from Laser-Driven Implosion Experiments (C13)

R. Epstein, J. A. Delettrez, V. Yu. Glebov, V. N. Goncharov, P. W. McKenty, P. B. Radha, S. Skupsky, V. A. Smalyuk, and C. Stoeckl (University of Rochester, Laboratory for Laser Engineering)

- 11:10 – 11:30 Modeling Turbulent Mixing in Inertial Confinement Fusion Implosions (C37)
Y. Srebro, D. Kushnir, Y. Elbaz, and D. Shvarts (Ben-Gurion University, Nuclear Research Center, Negev, and Hebrew University)
- 11:30 – 12:00 Dispersal of Mass and Circulation Following Shock-Sphere (Axisymmetric) and Shock Cylinder Interactions: Effects Arising from Shock Cavity Collapse, Vortex Double Layers; Density-Gradient Intensification and Vortex Projectiles (C29)
G. Peng, S. Gupta, S. Zhang, and N. J. Zabusky (Rutgers University)
- 12:00 – 13:15 Lunch: Winnett Lounge**
- Computational Session V**
Chair: N. J. Zabusky
(Rutgers University)
- 13:15 – 13:35 Code to Code Comparisons for the Problem of Shock Acceleration of Diffuse Dense Gaseous Cylinder (C16)
J. A. Greenough, W. J. Rider, C. A. Zoldi, and J. R. Kamm (Lawrence Livermore National Laboratory and Los Alamos National Laboratory)
- 13:35 – 13:55 Molecular Dynamic Simulation of Shock and Richtmyer-Meshkov Instability in Cylindrical Geometry (C26)
K. Nishihara, V. Zhakhovskii, and M. Abe (Osaka University, Institute of Laser Engineering)
- 13:55 – 14:15 Large Eddy Simulation of Strong Shock Richtmyer-Meshkov Instability (C33)
R. Samtaney, T. Voelkl, and D. I. Pullin (California Institute of Technology)
- 14:15 – 14:35 Spectral and High-Order Compact Methods for Shock-Induced Mixing (C8)
A. W. Cook, W. Cabot, and J. A. Greenough (Lawrence Livermore National Laboratory)
- 14:35 – 14:55 Break: Beckman Institute (courtyard)**

Computational Session VI

Chair: B. T. Goodwin

(Lawrence Livermore National Laboratory)

- 14:55 – 15:15 Turbulent Mixing Nuclear Burning in Type Ia Supernova Explosion Based on Bubble Statistical Mechanics (C38)
H. Takabe, S. Yamada, K. Kobayashi, A. Mizuta, and K. Nomoto (Osaka University, Institute of Laser Engineering and University of Tokyo)
- 15:15 – 15:35 High Order Numerical Methods for the 2D Richtmyer-Meshkov Instability (C54)
W.-S. Don, D. Gottlieb, L. Jameson, and C.-W. Shu (Brown University and Lawrence Livermore National Laboratory)
- 15:35 – 15:55 Compressibility Effects in a High-Speed, Reacting Shear Layer: An Investigation Using DNS (C27)
C. Pantano and S. Sarkar (University of California, San Diego)
- 15:55 – 16:15 A Semi-Empirical Model for Turbulent Diffusion of Magnetic Field to Accelerated Plasma (C19)
E. V. Gubkov, V. A. Zhmailo, and Yu. V. Yanilkin (Russian Federal Nuclear Center-VNIIEF)
- 16:15 – 17:45 Computational Discussion: Beckman Institute Auditorium**

**Experimental and Theoretical Poster Session:
Winnett Lounge**

- 18:00 – 21:00 Banquet: Pasadena Hilton**
Guest Speaker: Z. Nagin Cox
(NASA, Jet Propulsion Laboratory)

THURSDAY, DECEMBER 13, 2001

8:15 – 8:30 Announcements: O. Schilling

Theoretical Session I
Chair: D. I. Meiron
(California Institute of Technology)

8:30 – 9:30 Review Talk:
Three Dimensional Multi-Mode Rayleigh-Taylor and Richtmyer-Meshkov Instabilities at All Density Ratios (T14)
D. Kartoon, D. Oron, L. Arazi, A. Rikanati, U. Alon, and D. Shvarts (Nuclear Research Center, Negev, Ben-Gurion University, Tel-Aviv University, and Weizmann Institute)

9:30 – 9:50 Theoretical Methods for Determination of Mix (T7)
B. Cheng, J. Glimm, and D. H. Sharp (Los Alamos National Laboratory, State University of New York, Stony Brook, and Brookhaven National Laboratory)

9:50 – 10:10 Effects of High Initial Amplitudes and High Mach Numbers on the Evolution of the RM Instability: I. Theoretical Study (T23)
A. Rikanati, D. Oron, O. Sadot, and D. Shvarts (Nuclear Research Center, Negev and Ben-Gurion University)

10:10 – 10:30 Evolution of Arbitrary Perturbations in the Richtmyer-Meshkov Instability (T20)
K. O. Mikaelian (Lawrence Livermore National Laboratory)

10:30 – 10:50 Break: Beckman Institute (courtyard)

Theoretical Session II
Chair: S. B. Dalziel
(Cambridge University)

10:50 – 11:10 Spectral Analysis of Turbulent Flows Induced by RT and RM Instabilities (T38)
V. F. Tishkin and N. V. Zmitrenko (Institute for Mathematical Modeling, Russian Academy of Sciences)

- 11:10 – 11:30 A New Framework for Transitional and Turbulent Mixing (T36)
Y. Zhou, *H. F. Robey*, and *A. C. Buckingham* (*Lawrence Livermore National Laboratory*)
- 11:30 – 11:50 Raleigh-Taylor and Richtmyer-Meshkov Instabilities for Fluids with a Finite Density Contrast (T2)
S. I. Abarzhi, *J. Glimm*, and *A der Lin* (*State University of New York, Stony Brook*)
- 12:00 – 13:15 Lunch: Winnett Lounge**
- Theoretical Session III**
Chair: T. T. Clark
(Los Alamos National Laboratory)
- 13:15 – 13:35 Nonlinear Evolution of an Interface in the Richtmyer-Meshkov Instability (T19)
K. Nishihara, *C. Matsuoka*, and *Y. Fukuda* (*Ehime University and Osaka University Institute of Laser Engineering*)
- 13:35 – 13:55 Nonlinear Evolution of Unstable Fluid Interface (T1)
S. I. Abarzhi (*State University of New York, Stony Brook*)
- 13:55 – 14:15 Analytical Study of the Rayleigh-Taylor Instability in Compressible Fluids (T30)
M. Tricottet and S. Bouquet (*Commissariat à l'Energie Atomique*)
- 14:15 – 14:35 Non-Linear Stages for the RT and RM Instabilities (T13)
N. A. Inogamov, *M. Tricottet*, *A. M. Oparin*, and S. Bouquet (*Landau Institute for Theoretical Physics, Institute of Computer-Aided Design, and Commissariat à l'Energie Atomique*)
- 14:35 – 14:55 Break: Beckman Institute (courtyard)**

Theoretical Session IV

Chair: D. L. Youngs

(Atomic Weapons Establishment)

- 14:55 – 15:15 Rate of Growth of the Linear Richtmyer-Meshkov Instability (T34)
J. G. Wouchuk (University of Castilla)
- 15:15 – 15:35 Efficient Perturbation Methods for Richtmyer-Meshkov and Rayleigh-Taylor Instabilities: Weakly Nonlinear Stage and Beyond (T32)
M. Vandenboomgaerde, C. Cherfils, D. Galmiche, S. Gauthier, and P. A. Raviard (Commissariat à l'Energie Atomique)
- 15:35 – 15:55 Response of Turbulent RANS Models to Self-Similar Variable Acceleration RT-Mixing: An Analytical 0D Analysis (T18)
A. Llor (Commissariat à l'Energie Atomique)
- 15:55 – 16:15 Combined Shear and Buoyancy Instabilities (T33)
P. N. Wilson, M. J. Andrews, and F. H. Harlow (Texas A & M University and Los Alamos National Laboratory)
- 16:15 – 17:45 Theoretical Discussion: Beckman Institute Auditorium**

**Experimental and Computational Poster Session:
Winnett Lounge**

FRIDAY, DECEMBER 14, 2001

- 8:15 – 8:30 Announcements: O. Schilling
- Theoretical Session V**
Chair: O. Schilling
(Lawrence Livermore National Laboratory)
- 8:30 – 8:50 Rayleigh-Taylor Instability in Compressible Fluids (C12)
Y. Elbaz, A. Rikanati, D. Oron, and D. Shvarts (Nuclear Research Center Negev, Ben Gurion University, and Weizmann Institute of Science)
- 8:50 – 9:10 A Model for Instability Growth in Accelerated Solid Metals (T9)
J. D. Colvin, M. Legrand, B. A. Remington, G. Schurtz, and S. V. Weber (Lawrence Livermore National Laboratory and Commissariat à l'Energie Atomique)
- 9:10 – 9:30 Toy Models for the Growth Rate of Rayleigh-Taylor Instability (T10)
S. B. Dalziel (Cambridge University)
- 9:30 – 9:50 Spherical Combustion Layer in a TNT Explosion (T37)
A. L. Kuhl and R. E. Ferguson (Lawrence Livermore National Laboratory and Krispin Technologies)
- 9:50 – 10:10 3D Rayleigh-Taylor and Richtmyer-Meshkov Single -Modes (T12)
N. A. Inogamov, A. M. Oparin, M. Tricottet, and S. Bouquet (Landau Institute for Theoretical Physics, Institute for Computer Aided Design, and Commissariat à l'Energie Atomique)
- 10:10 – 10:30 Modeling Radiation Effects in Mixing Layers (T8)
T. Clark and F. H. Harlow (Los Alamos National Laboratory)
- 10:30 – 10:50 Break: Beckman Institute (courtyard)**
- 10:50 – 11:10 Large- and Small-Scale Dynamics of Variable-Density Rayleigh-Taylor Instability-Induced Turbulent Mixing (T28)
O. Schilling and A. W. Cook (Lawrence Livermore National Laboratory)
- 11:10 – 11:55 Summary Remarks**
- 11:55 – 12:00 Closing Remarks: O. Schilling / D. Meiron**

EXPERIMENTAL POSTERS

Experimental Investigation of the Heavy and Light Media Separation in the Rayleigh-Taylor Turbulence Zone at Different Atwood Numbers (E2)

Yu. A. Kucherenko, S. I. Balabin, R. I. Ardashova, A. P. Pylaev, O. E. Kozelkov, and V. D. Murzakov (Russian Federal Nuclear Center – VNIITF)

Experimental Investigation into Influence of Stabilizing Properties of Transitional Layers Upon the Turbulent Mixing Evolution (E3)

Yu. A. Kucherenko, S. I. Balabin, R. I. Ardashova, O. E. Kozelkov, A. V. Dulov, and I. A. Romanov (Russian Federal Nuclear Center – VNIITF)

Mixing Between Two Compressing Cylinders (E5)

S. H. Batha, K. W. Parker, C. W. Barnes, A. M. Dunne, N. E. Lanier, G. R. Magelssen, T. J. Murphy, S. Rothman, J. M. Scott, and D. Youngs (Los Alamos National Laboratory and Atomic Weapons Establishment)

Development of a Method for Studying the Interaction between Shock Wave and a Flame Front (E6)

M. Bliznetsov, V. Dudin, S. Gerasimov, L. Houas, G. Jourdan, and A. Logvinov (Russian Federal Nuclear Center – VNIIEF, SarPTI, IUSTI/CNRS)

Design of Flyer-Plate-Driven Compressible Turbulent Mix Experiments (E9)

R. P. Drake (University of Michigan)

Growth of Perturbations on Metals Interface at Oblique Collision with Supersonic Velocity of Contact Point Motion (E11)

O. B. Drennov, A. L. Mikhaylov, P. N. Nizovtsev, and V. A. Raevskii (Russian Federal Nuclear Center – VNIIEF)

From Linear to Turbulent Stages of the Richtmyer-Meshkov Instability Development in a Large Cross Section Shock Tube (E17)

L. Houas, G. Jourdan, E. E. Meshkov, and L. Schwaedlerlé (Université de Provence and Russian Federal Nuclear Center – VNIIEF)

RFNC-VNIITF Multifunctional Shock Tube to Investigate the Evolution of Instabilities in Nonstationary Gas Dynamic Flows (E20)

Yu. A. Kucherenko, O. E. Shestachenko, S. I. Balabin, and A. P. Pylaev (Russian Federal Nuclear Center – VNIITF)

Hydrodynamic Instabilities at a Shock Accelerated Bubble
Gas-Gas Interface (E22)

G. Layes, G. Jourdan, P. Roualdes, and L. Houas (IUSTI and Centre d'Etudes de Gramat)

Experimental and Numerical Study of Shock Wave-Bubble
Interaction (E23)

K. Levy, O. Sadot, D. Oron, Y. Srebro, Y. Elbaz, A. Josef-Hai, G. Ben-Dor, and D. Shvarts (Ben-Gurion University and Nuclear Research Center, Negev)

Laser-Driven Near Isentropic Compression of an Aluminum Flyer Plate (E24)

K. T. Lorenz, D. Kalantar, J. Edwards, J. D. Colvin, and B. Remington (Lawrence Livermore National Laboratory)

Single-Mode Incompressible Richtmyer-Meshkov Instability Experiments (E26)

C. E. Niederhaus and J. W. Jacobs (NASA Glenn and University of Arizona)

Modeling Laser Material Strength Experiments (E29)

S. Pollaine, D. Kalantar, B. Remington, J. Belak, J. D. Colvin, J. Edwards, R. Minich, K. O. Mikaelian, K. T. Lorenz, S. V. Weber, L. G. Wiley, D. Paisley, A. Hauer, J. S. Wark, A. Loveridge, A. M. Allen, T. R. Boehly, and M. A. Meyers (Lawrence Livermore National Laboratory, Los Alamos National Laboratory, Oxford University, University of Rochester, and University of California, San Diego)

Experiments and Simulations of Instabilities in a Shock-Accelerated Gas
Cylinder (E30)

K. Prestridge, C. A. Zoldi, P. Vorobieff, P. M. Rightley, and R. F. Benjamin (Los Alamos National Laboratory, State University New York, Stony Brook, and University of New Mexico)

Experimental Study of the Interaction of a Strong Shock with a Spherical
Density Inhomogeneity (E34)

H. F. Robey, T. S. Perry, R. I. Klein, J. A. Greenough, J. O. Kane, and T. R. Boehly (Lawrence Livermore National Laboratory, University of California, Berkeley, University of Rochester)

Turbulent Transition in a High Reynolds Number, Rayleigh-Taylor Unstable
Plasma Flow (E35)

H. F. Robey, Y. K. Zhou, A. C. Buckingham, P. Keiter, B. A. Remington, and R. P. Drake (Lawrence Livermore National Laboratory and University of Michigan)

Measurements Within a Richtmyer-Meshkov Mixing Zone Using a Triple Hot Wire Probe Technique (E37)

L. Schwaederlé, G. Jourdan, L. Houas, and J.-F. Haas (IUSTI and Commissariat à l'Energie Atomique)

Experimental Study into Evolution of Gravitational Turbulent Mixing of Gases at the Multifunctional Shock Tube (E38)

Yu. A. Kucherenko, O. E. Shestachenko, Yu. A. Piskunov, E. V. Sviridov, V. M. Medvedev, and A. I. Baishev (Russian Federal Nuclear Center – VNITF)

Doubly-Shocked Richtmyer-Meshkov Instability Experiments at Nova (E41)

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