

## List of Publications

### Peer-Reviewed Papers

1. "A general buoyancy-drag model for the evolution of the Rayleigh-Taylor and Richtmyer-Meshkov instabilities", Srebro Y., **Elbaz Y.**, Sadot O., Arazi L., Shvarts D., Laser and Particle Beams 21(3) 347-53, 2003.
2. "Late-time growth of the Richtmyer-Meshkov instability for different Atwood numbers and different dimensionalities", Yosef-Hai A., Sadot O., Kartoon D., Oron D., Levin A., Sarid E., **Elbaz Y.**, Ben-dor G., Shvarts D., Laser and Particle Beams, 21(3) 363-8, 2003.
3. "Modeling turbulent mixing in inertial confinement fusion implosions", Srebro Y., Kushnir D., **Elbaz Y.**, Shvarts D., Laser and Particle Beams, 21(3) 355-61, 2003.
4. "Multidimensional analysis of direct-drive, plastic-shell implosions on OMEGA", Radha P., Collins T., Delettrez J.,; **Elbaz Y.**, Epstein R., Glebov V., Goncharov V., Keck R., Knauer J., Marozas J., Marshall F., McCrory R., McKenty P., Meyerhofer D., Regan S., Sangster T., Seka W., Shvarts D., Skupsky S., Srebro Y., Stoeckl C., Physics of Plasmas, 12(5), 56307-1-10, 2005.
5. "Two-dimensional simulations of plastic-shell, direct-drive implosions on OMEGA", Radha P., Goncharov V., Collins T., Delettrez J., **Elbaz Y.**, Glebov V., Keck R., Keller D., Knauer J., Marozas J., Marshall F., McKenty P., Meyerhofer D., Regan S., Sangster T., Shvarts D., Skupsky S., Srebro Y., Town R., Stoeckl C., Physics of Plasmas, 12(3), 32702-1-18, 2005.
6. "Studying hydrodynamic instability using shock-tube experiments", Sadot O., Levy K., Yosef-Hai A., Cartoon D., **Elbaz Y.**, Srebro Y., Ben-Dor G., Shvarts D., Astrophysics and Space Science, 298 85-7, 2005.
7. "Size distribution and energy spectrum in the mixed state induced by Rayleigh-Taylor instability", Hazak G., **Elbaz Y.**, Gardner J.H., Velikovich A.L., Schmitt A.J., Zalesak S.T., Physical Review E, 73(4), 47303-1-4, 2006.

8. "Investigation of the Richtmyer-Meshkov instability under re-shock conditions", Leinov E., Sadot O., Formoza A., Malamud G., **Elbaz Y.**, Levin L.A., Ben-Dor G., Shvarts D., *Physica Scripta*, 014014, 2008.
9. "Experimental and numerical investigation of the Richtmyer-Meshkov instability under reshock conditions", Leinov E., Malamud G., **Elbaz Y.**, Levin L.A., Ben-Dor G., Shvarts D., Sadot O., *Journal of Fluid Mechanics*, vol. 626, 449-475 (2009).
10. "Neutron yield study of direct drive, low adiabat cryogenic D2 implosions on OMEGA laser system", S. X. Hu, P. B. Rhada, J. A. Marozas, R. Betti, T. J. B. Collins, R. S. Craxton, J. A. Delettrez, D. H. Edgell, R. Epstein, V. N. Guncharov, I. V. Igumenshchev, F. J. Marshall, R. L. McCrory, D. D. Meyerhofer, S. P. Regan, T. C. Sangster, S. Skupsky, V. A. Smalyuk, **Y. Elbaz**, D. Shavrts, *Physics of Plasmas* 16, 112706, 2009.
11. "Kinetic theoretical approach to turbulence in variable density incompressible, statistically inhomogeneous fluids", Hazak G., **Elbaz Y.**, Zalesak S.T., N. Wygoda, Schmitt A.J., *Physical Review E*, 81, 026314, 2010.
12. "Experimental observations of turbulent mixing due to Kelvin Helmholtz instability on the OMEGA laser facility", V. A. Smalyuk, J. F. Hanson, O. A. Hurricane, G. Langstaff, D. Martinez, H. S. Park, K. Raman, B. A. Remington, H. F. Robey, O. Schilling, R. Wallace, **Y. Elbaz**, A. Shimony, D. Shavrts, C. Di Stefano, R. P. Drake, D. Marion, C. M. Kruland, C. C. Kuranz, *Physics of Plasmas* 19, 092702, 2012.
13. "Measurements of turbulent mixing due to Kelvin Helmholtz instability in high energy density plasmas", V. A. Smalyuk, J. F. Hanson, O. A. Hurricane, G. Langstaff, D. Martinez, H. S. Park, K. Raman, B. A. Remington, H. F. Robey, O. Schilling, R. Wallace, **Y. Elbaz**, A. Shimony, D. Shavrts, C. Di Stefano, R. P. Drake, D. Marion, C. M. Kruland, C. C. Kuranz, *High Energy Density Physics*, 9.1, 47-51, 2013
14. "A design of a two-dimensional, multimode RM experiment on OMEGA-EP", Malamud, G., Di-Stefano, C.A., **Elbaz, Y.**, Huntington, C.M., Kurantz, C.C., Keiter, P.A., Drake, R.P., *High Energy Density Physics* 9.1 122-131, 2013.

15. "Microbranching in mode I fracture in a randomly perturbed lattice", S. I Heizler, D. A. Kessler, **Y. Elbaz**, Physical Review E 88, 022401, 2013.
16. "A design of a two-dimensional, supersonic KH experiment on OMEGA-EP", Malamud G., Shimony A., Wan W. C., Di-Stefano C. A., **Elbaz Y.**, Kuranz C. C., Shvarts, D., High Energy Density Physics 9.4 672-686, 2013.
17. "Reshocked RM instability - Numerical study and modeling of random multi-mode experiments", Malamud G., Leinov E., Sadot O., **Elbaz Y.**, Levin L.A., Ben-Dor G., Shvarts D. Physics of Fluids 26.8, 084107, 2014.
18. "Modal model meanfield self-similar solutions to the asymptotic evolution of Rayleigh-Taylor and Richtmyer-Meshkov instabilities and its dependence on the initial conditions", **Elbaz, Y.**, Shvarts, D., Physics of Plasmas 25, 062126, 2018.
19. "Type Ia supernova have two physical width-luminosity relations and they favor sub-Chandrasekhar and direct collision models. I. Bolometric", N. Wygoda, **Y. Elbaz**, B. Katz, MNRAS (Monthly Notices of the Royal Astronomical Society) 484, 3, 3941-3950, 2019.
20. "Type Ia supernova have two physical width-luminosity relations and they favor sub-Chandrasekhar and direct collision models. II. Color evolution", N. Wygoda, **Y. Elbaz**, B. Katz, MNRAS (Monthly Notices of the Royal Astronomical Society) 484, 3, 3951-3967, 2019.

### Conference Proceedings

21. "Dimensionality Dependence of Late Time Evolution of Rayleigh-Taylor and Richtmyer-Meshkov Instability", O. Sadot, D. Oron, D. Krtoon, L. Arazi, A. Yosef-Hai, **Y. Elbaz**, U. Alon and D. Shvarts, proceedings of 26<sup>th</sup> European conference on Laser Interaction with Matter, Prague, 2000.

### Conference Presentations

22. "Linear and Non-Linear Rayleigh-Taylor Instability in Compressible Fluids", **Y. Elbaz**, A. Rikanti and D. Shvarts, presented at the 3<sup>rd</sup> international conference on Laboratory Astrophysics with Intense Lasers, Houston, 2000.

23. "Rayleigh-Taylor Instability in Compressible Fluids", **Y. Elbaz**, A. Rikanti, D. Oron and D. Shvarts, presented at the 8<sup>th</sup> IWPCTM, Pasadena CA, 2001.
24. "Modeling Turbulent Mixing in Inertial Confinement Fusion Implosions", Y. Srebro, D. Kushnir, **Y. Elbaz** and D. Shvarts, presented at the 8<sup>th</sup> IWPCTM, Pasadena CA, 2001.
25. "The dependence of the Shock Induced Richtmyer-Meshkov Instability on Dimensionality and Density Ratio", A. Yosef-Hai, O. Sadot, D. Kartoon, D. Oron, E. Sarid, **Y. Elbaz**, G. Ben-Dor and D. Shvarts, presented at the 8<sup>th</sup> IWPCTM, Pasadena CA, 2001.
26. "A General Bouyancy-Drag Model for the Evolution of the Rayleigh-Taylor and Richtmyer-Meshkov Instabilities", **Y. Elbaz**, Y. Srebro, O. Sadot and D. Shvarts, presented at the 8<sup>th</sup> IWPCTM, Pasadena CA, 2001.
27. "Initial condition dependence of RT, RM and KH instabilities", **Y. Elbaz**, N. Wygoda, D. Shvarts, presented at the 10<sup>th</sup> IWPCTM, Paris, 2006.
28. "Initial conditions dependence of RT and RM instabilities - numerical and theoretical analysis", N. Wygoda, **Y. Elbaz**, D. Shvarts, presented at the 10<sup>th</sup> IWPCTM, Paris, 2006.
29. "Initial conditions vs. mode coupling dominance in RT, RM and KH instabilities", D. Shvarts, **Y. Elbaz**, N. Wygoda, presented at the 48<sup>th</sup> meeting of APS-DPP, 2006.