

Abstract Submitted
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Simulation of Wire-Array Z Pinches with ALEGRA SOPHIE CHANTRENNE, DAVID BLISS, KYLE COCHRANE, CHRISTINE COVERDALE, CHRIS DEENEY, CLINT HALL, THOMAS HALL, BRENT JONES, PAUL LEPELL, BRYAN OLIVER, DANIEL SINARS — Wire-array z pinches provide the x-ray radiation drive for Inertial Confinement Fusion Experiments at Sandia National Laboratories. A physical understanding of the physics of wire-array z pinches is important in providing a future radiation source capable of driving high-yield fusion capsules. Modeling of wire-array implosions on the Z machine were performed using the 2-D radiation MHD code Alegra. These new calculations use more accurate initial conditions that are more representative of the experimental data, allowing us to model the implosion through stagnation, to avoid radiation collapse, and to generate a radiation pulse that compares well with data. Code predictions will be compared with tungsten & aluminum wire-array data from Z.

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