

Abstract Submitted
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The ePLAS code for Ignition Studies¹ R.J. FAEHL, R.J. MASON, R.C. KIRKPATRICK, Research Applications Corp — The ePLAS code is a multi-fluid/PIC hybrid developing self-consistent E & B -fields by the Implicit Moment Method for stable calculations of high density plasma problems with voids on the electron Courant time scale. See: <http://www.researchapplicationscorp.com>. Here, we outline typical applications to: 1) short pulse driven electron transport along void (or high Z) insulated wires, and 2) the 2D development of shock ignition pressure peaks with B -fields. We outline the code's recent inclusion of SESAME EOS data, a DT/DD burn capability, a new option for K-alpha imaging of modeling output, and demonstrate a foil expansion tracked with either fluid or particle ions. Also, we describe a new super-hybrid extension of our implicit solver that permits full target dynamics studies on the ion Courant scale. Finally, we will touch on the very recent application of ePLAS to possible non-local/kinetic hydro effects NIF capsules.

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R.J. Mason
Research Applications Corp

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