Please schedule the poster for one of the sessions Monday afternoon through Thursday morning.

Abstract Submitted
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EMPulse, a new 3-D simulation code for electromagnetic pulse studies[1] BRUCE COHEN, CHESTER ENG, WILLIAM FARMER, ALEX FRIEDMAN, DAVID GROTE, HANS KRUGER, DAVID LARSON, Lawrence Livermore National Laboratory — EMPulse is a comprehensive and modern 3-D simulation code for electro-magnetic pulse (EMP) formation and propagation studies, being developed at LLNL as part of a suite of codes to study E1 EMP originating from prompt gamma rays [1]. EMPulse builds upon the open-source Warp particle-in-cell code framework developed by members of this team and collaborators at other institutions. The goal of this endeavor is a new tool enabling the detailed and self-consistent study of multi-dimensional effects in geometries that have typically been treated only approximately. Here we present an overview of the project, the models and methods that have been developed and incorporated into EMPulse, tests of these models, comparisons to simulations undertaken in CHAP-lite [2] (derived from the legacy code CHAP due to C. Longmire and co-workers [3]), and some approaches to increased computational efficiency being studied within our project. [1] A. Friedman, et. al., *this Conference.* [2] W. A. Farmer, et al., *IEEE Trans. Nuclear Science* **63**, 1259 (2016). [3] C. L. Longmire, IEEE Trans. Electromagnetic Compatibility **20 no. 1**, 3 (1978).

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