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Hydrodynamic simulation with the hot-electron transport model for shock ignition[1] HIDEO NAGATOMO, TAKERU HATANAKA, MASAYASU HATA, ILE, Osaka University, KUNIOKI MIMA, The Graduate School for the Creation of New Photonics Industries — In the last phase of the shock ignition scheme, an intense spike laser pulse drives a strong shock in order to ignite the compressed fuel. The generation of strong shock is in a laser-plasma interaction regime where laser-plasma instabilities are expected. For example, generation of hot electron and its non-local transport cannot be ignored. In this study, we focus on the modeling of hot-electron transport generated by the SRS and SBS for hydrodynamic simulations [1]. PIC simulation of LPI in long plasma density scale length generates the time history of distribution of the hot electron. The most dominant hot electron slope temperature produced by the SRS is about 30keV, which is simplified to the hot electron distribution function for the source term of the non-local electron transport model in hydrodynamic simulation. We have implemented a few hot electron transport models [1] in to 2-D radiation hydrodynamic simulation code, PINOCO [2]. Numerical method and some simulation results are shown in this presentation. [1] D. Sorbo, et al., Phys. Plasmas 22, 082706 (2015) [2] H. Nagatomo et al., Nucl. Fusion 57, 086009 (2017)

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