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Electron kinetic simulations of nanosecond pulse interaction with foam targets for X-ray production JEAN-PIERRE MATTE, INRS-EMT (Un. du Québec), KEVIN B. FOURNIER, Lawrence Livermore National Laboratory — SiO_2 aerogel targets doped with Ge or Ti have been used as sources of multi-keV X-rays for backlighting [1,2], and a supersonic ionization wave was observed to propagate in the underdense plasma. To complement previous LASNEX 2D fluid simulations [1,2], and to better understand the heat transport, we performed planar 1D simulations with our electron kinetic code "FPI" [3], including atomic physics (ionization and excitation of Si). Both axial and radial transport were addressed, albeit in turn. Non Maxwellian energy distribution functions, due to strong laser heating and to nonlocal electron heat flow were seen. K.B.F.'s work performed under the auspices of the US Department of Energy by the University of California Lawrence Livermore National Laboratory under Contract No. W-7405-Eng-48.
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