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Hot electron reduction in two-plasmon-decay by magnetic fields¹

WENDA LIU, CHUANG REN, University of Rochester — We performed PIC simulations on two-plasmon-decay (TPD) and associated hot electron generation under perpendicular magnetic fields of 10 and 100 T. TPD linear growth and saturation levels are not significantly changed. Hot electron generation is significantly reduced when B=100 T but not when B=10 T. The reduction is due to disruption of the staged acceleration of hot electron through their gyro-motion. The reduction affects the low-energy hot electrons more than high-energy ones. Magnetic field generation mechanisms in target corona will also be discussed.

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