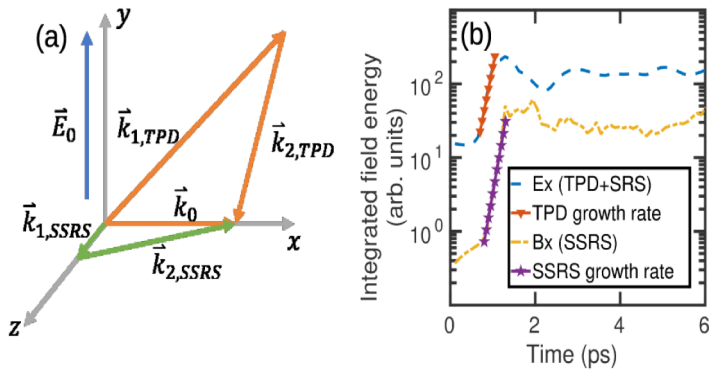
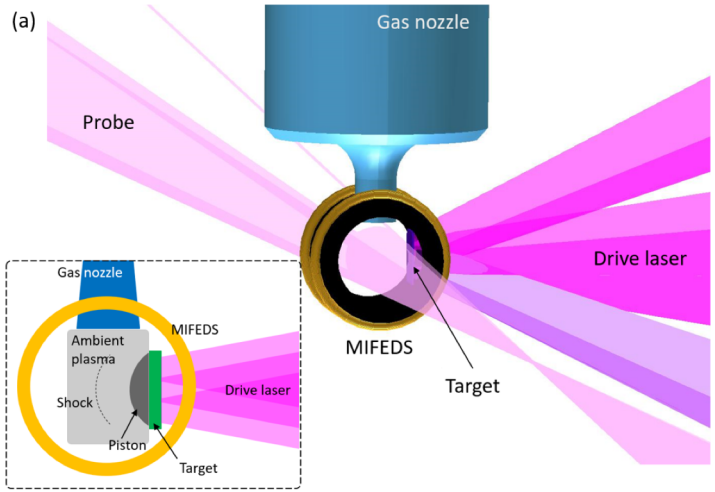
Group of Plasma Simulation: using particle-in-cell codes to study physics in fusion and astrophysical plasmas

Predicting hot electrons in ICF



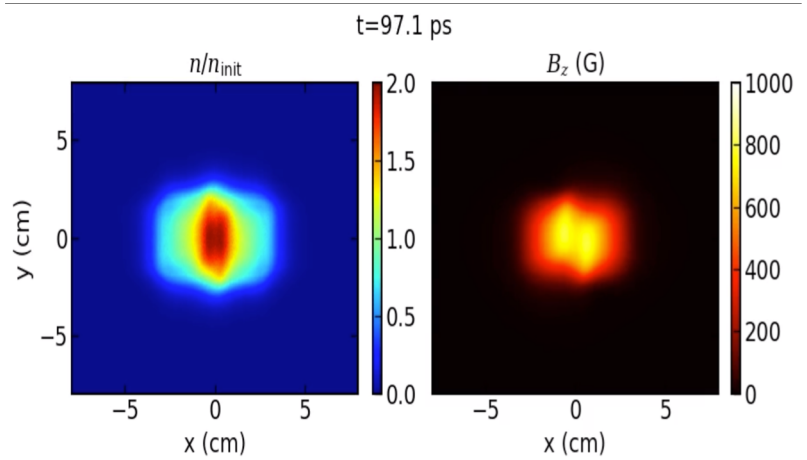
Mode structure and growth of two-plasmon decay (TPD) and side stimulated Raman scattering (SSRS) instabilities that can generate hot electrons in direct-drive ICF. See S. Cao et al. Phys. Rev. E 101, 053205 (2020)

Creating collisionless shocks using high-power lasers



See Y. Zhang et al. Phys. Plasmas 28, 072111 (2021)

Exploring new magneto-inertial fusion concepts



Density and magnetic field of two colliding magnetized plasma jets with parameters relevant to Plasma Liner Experiment at Los Alamos National Lab (credit Han Wen. See also S. Hsu et al IEEE Transaction on Plasma Science 40, 1287 (2012)

Currently looking for 1 PhD student

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