

Abstract Submitted
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Use of Lagrangian Radiation-Hydrodynamic Codes to Study Ablative Laser Propulsion M.J. GROSSKOPF, R.P. DRAKE, M.R. TAYLOR, University of Michigan — Using HYADES computer code developed by Jon Larsen at Cascade Inc., we model different techniques for ablation pressure to provide thrust to a small spacecraft. Large, ground-based lasers would be used to irradiate a chosen material on the craft in order to remove material to propel the craft forward. Both a direct drive and an indirect drive approach to ablating the propellant from the surface are being studied, as well as the effects of laser pulse length and pulse separation on the amount of thrust transferred to the target. This research may have application to the development of a method of launching small satellites more cheaply and efficiently by separating the source of energy from the craft itself. This work was supported by the University of Michigan.

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