

Abstract Submitted  
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**Optimizing design of a VASIMR at UVU using single particle trajectories** SAM OTERO, PHIL MATHESON, Utah Valley University — Magnetoplasma thrusters are likely to increase in importance for interplanetary missions. Of particular interest is the VARIable Specific Impulse Magnetoplasma Rocket (VASIMR). A group of undergraduate students at Utah Valley University has initiated an exploration of the VASIMR with the intent to eventually build a model device. To optimize the configuration of device components we have developed a computational model using ion cyclotron resonant heating (ICRH) of singly-ionized argon atoms to explore particular device configurations. We assume that the behaviors of single-particle motions may give insight to the response of the general plasma, and the analysis of the resulting data allows for optimization of device configurations. We present the results of our preliminary investigations.

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