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Miniaturization of electrostatic space thrusters using ionization/acceleration coupling in discharge mode

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<p>Miniaturization of space prolusion systems has many advantages, both from an economic and performance perspective. One of the most promising propulsion technologies, the gridded electrostatic ion engine, resists miniaturization due to the poor down-scaling characteristics of the ion producing discharge chamber. We investigate a system where the ionization and acceleration mechanisms are coupled, thereby making the same electric field responsible for both. This sidesteps the need of a discharge chamber and allows for design of a much smaller engine. We introduce the concept and present some initial results, commenting on the feasibility of such a design.

Level (Hons, MSc,
   PhD, other)?

other

Consider for a student
   award (Yes / No)?

no

Would you like to <br> submit a short paper <br> for the Conference
 Proceedings (Yes / No)?

yes

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