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Plasma Diagnostics of Miniaturised DC Glow Discharge Thruster Concept

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The DC discharge microthruster concept is a simple, energy efficient plasma micropropulsion system that operates using an ionisation-acceleration coupling mechanism. This system was developed in the hopes of addressing some of the shortcomings of many state-of-the art electric micropropulsion systems. Preliminary studies have been conducted on the thruster from which the stable operating parameters were deduced. Plasma plume diagnostic measurements, including the ion current density and ion energy distribution and the influence of changes in the operating parameters (applied voltage, discharge current etc.) on these measured quantities will be presented. The estimated thrust-to power-ratio of the system and its overall feasibility as a micropropulsion mechanism will also be discussed.

Apply to be considered for a student ; award (Yes / No)?

Yes

Level for award;(Hons, MSc, PhD, N/A)?

MSc

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