

SPACE PROPULSION SYMPOSIUM (C4)
Interactive Presentations (IP)

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AN OVERVIEW OF HOLLOW CATHODES ACTIVITIES AT SITAEI

Abstract

Recent years have witnessed a growing demand of electric propulsion systems for both large telecommunications (e.g. ABS 3A, Eutelsat 115W, SES-14) and small Earth-observation satellites (e.g. TacSat-2, DubaiSat-2, OptSat-2000). In this context, one of the main challenges for thruster manufacturers is the capability of providing a large range of reliable and low-cost systems to satisfy the changing requirements of the growing market. Given the primary importance of hollow cathodes in HET-based electric propulsion systems and the relative paucity of European suppliers, the Electric Propulsion Department of Sitael - formerly known as Alta - is intensifying its efforts to provide heated and heaterless hollow cathodes to address the needs of both low-power (<100 W) and high-power (>5 kW) Hall effect thrusters. This paper outlines the main directions of developments in the field of hollow cathodes for electric space propulsion and presents an overview of the ongoing activities at Sitael.