

IAF SPACE POWER SYMPOSIUM (C3)
Wireless Power Transmission Technologies and Application (2)

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WIRELESS ELECTRIFICATION IN SATELLITE SUB-SYSTEMS

Abstract

Two challenges of a satellite power subsystem are; insufficient power generation and low efficiency in power storage and distribution. From power acquisition to its storage and distribution, significant losses are experienced within the satellite sub-systems. These losses are due to intermediary components and loads. Whilst the concept of wireless power transmission from space to earth remains active, this ideation can be interpolated for applications within the satellite sub-systems to conserve energy and minimize power losses. The remedy is to minimize the number of intermediary components and loads, and this can be achieved through wireless transmission, e.g. using laser technology for power propagation. The focus of this paper is on modification of the Power Generation and Distribution Units, particularly for LEO satellites that have less exposure to sunlight.