

IAF SPACE POWER SYMPOSIUM (C3)
Advanced Space Power Technologies (3)

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PEROVSKITE SOLAR CELL FOR SPACE APPLICATIONS

Abstract

Satellite developers are continuously doing research on satellite energy sources that are efficient, lightweight and cheap than the current Silicon and triple-junction solar cells being used. The emergence of organic-inorganic metal halide Perovskite solar cells which, have high specific power (kW/kg), achieved record power conversion efficiencies greater than 22 attracted the attention of scientists for its possibility to replace silicon and triple junction solar cells. These factors makes Perovskite solar cells viable candidates for space applications. In this paper, results of space environment testing of different combinations of Perovskite solar cell hole transport material and the methodology for its future Low earth orbit demonstration is discussed.