

SPACE POWER SYMPOSIUM (C3)

Space-based Solar Power Architectures – New Governmental and Commercial Concepts and Ventures (1)

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THE FIRST INTERNATIONAL ASSESSMENT OF SPACE SOLAR POWER: RESULTS OF THE
INTERNATIONAL ACADEMY OF ASTRONAUTICS STUDY

Abstract

During 2008-2010, the International Academy of Astronautics (IAA) undertook the first international assessment of space solar power (SSP): the concept of delivering almost limitless solar energy from space to markets on Earth at an affordable price. This paper presents a summary of the results of this study, ranging from the need for new and sustainable energy sources, to potential markets for power from space during the coming century, to an integrated assessment of three major options for how solar power satellite (SPS) might be realized. These results include consideration of a number of key policy issues, prospective space applications of SSP technologies and systems, and an international roadmap for the development of SSP. The paper concludes with a synopsis of the recommendations of the Academy to the international community with respect to the future development of this new sustainable energy option.