

SPACE POWER SYMPOSIUM (C3)

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Author: Mr. Frank Steinsiek

EADS Astrium Space Transportation GmbH, Germany, frank.steinsiek@airbus.com

PETER GLASER LECTURE: SPACE-BASED SOLAR POWER COMMERCIAL DEVELOPMENT
AND PERSPECTIVES

Abstract

The challenge of providing clean energy to Earth by harvesting the abundant solar energy in space has been followed and investigated over the last few decades covering a broad spectrum of concepts and investigating all relevant technologies, environmental aspects and implementation scenarios. The idea of Space Based Solar Power (SBSP) originated with Dr. Peter Glaser in the 1970' ties and had been pursued further by NASA, JAXA, ESA and Russian Space Agency and on industry side, as well. Due to the actual controversy of limited natural fossil resources for future energy supply, the issue of global warming on one side, and advances in SBSP key technologies on the other, a reasonable implementation becomes evident. Worldwide activities in SBSP implementation are ongoing, at Space Agencies and space industry, but also commercial ventures. The lecture provides a screening of the major paths of SBSP system concepts development and will highlight recent early technology demonstrations, on earth an in space. The lecture has a major focus on SBSP perspectives in terms of system development and commercial applications, and its importance for a future long-term sustaining energy supply, that in support to other renewable resources; the system and technology development needs to be implemented step-wise in terms of energy levels and space systems complexities. Space-based Solar Power offers not only a contribution to resolve Earth climate issues in future, but also fosters social and economic development of the non-highly industrialized countries in the world.