

SPACE POWER SYMPOSIUM (C3)

Joint Session with IAA Commission 3 (Space Technology & System Development) on "Solar Energy From Space" (1)

Author: Dr. Milan Pospisil
Czech Republic, mpverifik@gmail.com

THIRTY YEARS IN SPACE POWER FOR EARTH

Abstract

M. Pospisil, Czech Republic, mpverifik@gmail.com

The first widely known principle of collecting of energy of solar radiation in space, transmission of it to Earth and delivering it into the terrestrial power grid published Dr. Glaser in the year 1968. In times of cheap oil there seemed no need for an alternative power source. After the first increase of oil prices in early seventies NASA ordered a research and companies Rockwell and Boeing submitted their proposals in 1975. With adjustment to new price levels of fossil fuels and estimation of construction price for a system of sixty 5 GW power satellites the SPS concept was considered too expensive and shelved in 1980.

Some groups of fans of the idea continued working on it. One of the results was Czech proposal of a compact power satellite with no movable parts and design adjustable to power demand in 1979 and the following years.

Other conclusions, probably more important, were that size matters, meaning that system of above certain installed power level would be compatible to terrestrial sources (in 1980), and that a "reasonable" approach from both economical and environmental points of view would require manufacturing in space and on the Moon (also in the eighties).

The crucial point of research was found to be the transmitting beam, with its sources, converters and receivers. The legal care should be taken on lunar activities, with the aim to leave the other side of the Moon unspoiled for science (in 2006).

IAC/IAF/IAA could help to creation of this unlimited clean energy source by support of research in this field by giving space and floor to exchange of ideas, e.g. by electronic SPS journal, widely available e-papers, small SPS oriented workshops, perhaps even by some scholarships for gifted students.