IAF SPACE POWER SYMPOSIUM (C3)
Solar Power Satellite (1)

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VISION FOR THE ECOSYSTEM DEVELOPMENT FOR SSPS

Abstract

Climate change is a challenge for all of humanity. Net Zero is an ambitious goal and a big challenge for all countries. There is an urgent need to develop new sources of clean energy that are sustainable, affordable and secure. Space Solar Power is becoming feasible in technique and economics to meet the challenge of Carbon Net Zero.

As a prospectively disruptive clean energy technology, with the quickly development of reusable launching vehicle and large scale manufacturing of spacecraft etc., the SSPS becomes more and more feasible in terms of technology and economy.

SSPS is a macro-engineering in space. There are still many technology and policy challenges need to be overcome. It needs continuous supports from government and commercial organization in order to achieve a long-term goal. To achieve a stable and sustainable development of SSPS, it is needed to incorporate it into the national space strategy and related energy strategy, to bring the innovation of many technologies and to improve the ability stage by stage through orbit demonstration, to utilize the spin-of of periodical result for applications, to improve the knowledge of environment effect of WPT, to attract the investment of commercial sector and government, to promote the academic exchange within the institutions both at domestic level and international level, to call for innovative commercialization pattern , more positive policy, and more ambitious international cooperation. Therefore, it is necessary to establish an Ecosystem or environment for SSPS development.

This paper proposes the vision of Ecosystem for SSPS, including technical sphere and social sphere etc., based on the practice in SSPS activities in China.