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SPACE POWER SYMPOSIUM (C3)
Space-Based Solar Power Architectures / Space & Energy Concepts (1)

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# SPACE BASED SOLAR POWER GENERATION AND TRANSMISSION SYSTEM

**Abstract**

Electric Power is one of the supreme aspects required in present era of time for humans to perform their activities and its scarcity would lead to discontinuing of many ventures aiding advancement of society. The natural resources such as coal, wood are either on the edge of their extinction or have been discontinued relating their shriveling up emissions that degrade atmosphere. The present generation depends upon tidal energy, solar energy and other sources to generate electric power encompassing high running cost which remorsefully upturns taxes on society and as well as perturbs social, cultural and economic characteristics of society. Indeed the establishment of these plants have varied geographical restrains involving high capital investment. Generating electricity in space using the solar power is one of the routine solution to cope up this radically approaching issue of society. Cultivation of ambient solar energy present in space in order to generate electricity in space itself would help to curtail the running cost of power generation systems and would support to abridge society taxes. This paper describes one such system to implement this notion employing a constellation of satellites installed with super capacitors, occupied to store electrical energy in them. The technology of electricity generation using solar panel would be implemented to generate electricity on the satellites that would be accumulated in the super capacitors. Microwaves as concluded by the NASA's Gold Stone Key experiment (1975) relating transmission of electric energy over a long distance using microwaves, have been used in this method to transmit electric energy generated in space onto earth. The paper discusses in brief about the various technical, scientific and economic segments involved in operation of this method. The various marginal issues such as deployment, satellite configuration and design have also been conferred in this paper. Implementation of this notion would advance the space industry in the field of technology and would aid it to uptake future missions relating space exploration with reduced intricacy.