

SPACE POWER SYMPOSIUM (C3)
Poster Session (P)Author: Mr. Nikhil Phunde
India, phunde.nikhil181@gmail.comDEVELOPEMENT OF WIRELESS SYSTEM FOR TRANSMISSION OF ELECTRICAL POWER
FROM SOURCE TO MULTIPLE POINTS USING A RESONANT INDUCTION COUPLING**Abstract**

On the basis of first work on wireless power transfer done by Nikola Tesla further research was done and innovations which include power transmission using microwave and another by using laser were brought about. In 2007, a researcher from Massachusetts Institute of Technology successfully made the first efficient non-radiative power transfer at an efficiency of 40% at the distance of 2m. Recent developments in this field is regarding Solar Power Satellite (SPS) which was brought into consideration in 1968. Radiative modes of omni-directional antennas are not suitable for such wireless energy transmission, because a vast majority of energy is wasted into free space.

India being a country with greater population density needs more electrical power to be transmitted for industrial and domestic purposes. To overcome these difficulties of transmission and distribution, the potential scope and usefulness of wireless power transfer are also being taken into consideration. A project has been undertaken on development of a system for wireless power transmission from a single point source to multiple receiver points using a resonant induction coupling. The system being developed for transmitting power is expected to work at an efficiency of around 80-90% over non-negligible distances. The short range model of wireless power transmission is aimed towards finding its applicability, advantages and making an estimate of overall costs involved. The paper also provides an insight about the novel wireless transmission techniques developed in this field.