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INTERNATIONAL LEGAL ISSUES ON CONSTRUCTION AND OPERATION OF SPACE SOLAR
POWER STATION

Abstract

Developing space solar power can promote resolving the problems on energy shortage and energy clean. The construction and operation of space solar power station may cause a series of problems, such as large amount of space debris, interfering satellite sign of other states and so on, so the existing international law will be challenged by the new situation. Space solar power can provide clean energy for mankind. It can provide energy for national military activities and military installations also. The microwave for wireless power transmission can be used to develop weather weapon. Under the situation, the principle on peaceful use of outer space will be challenged. A space solar power station need a large amount of building materials, solar panels and thin-film optical collector whose weight may reach about ten thousand tons. It need hundreds lunchings to send these materials into orbit. So the construction of a space solar power station will cause a large amount of space debris, it will threat to space safty and space environment. The microwave wireless power transmission or laser wireless power transmission is needed to transmit power from outer space to the ground. The microwave may interfere satellite sign of other states, cause damage to the aircraft or the surface of the earth. Both microwave and laser are not space object, so the current liability regime on damage caused by space object will be challenged. Space solar is non exhaustiveness energy, but it belongs to space sources. Developing space solar power station actually is a space activity which is an act of appropriation. It challenged current principle on non appropriation. Based on the ground, international community shall promote the legislation on prevention of arms race in outer space and weaponization in outer space prevent military use of space solar. It is necessary to establish a legal regime on activie space debris moving and space debris mitigation. In order to consider the intrests of developing countries, a fair regime on shairing benefits from space solar power is very important. On the basis of the damage caused by microwave or laser, liability regime on space activities shall be established.