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Author: Dr. Paul Jaffe
Naval Research Laboratory, United States, paul.jaffe@nrl.navy.mil

A FEASIBILITY ASSESSMENT FOR PROVIDING ENERGY TO REMOTE INSTALLATIONS VIA
SPACE SOLAR

Abstract

Collecting the abundant, uninterrupted sunlight of space for transmission for use on Earth has been proposed in many incarnations in preceding decades and through the present day. This approach could overcome in principle the losses associated with terrestrial solar energy collection due to nighttime, weather, and the atmosphere. Most proposals have targeted grid power provision for the delivered energy, where competing on a basis of cost can be challenging. In this paper, the prospect of using energy from space solar was assessed as a potential source of energy for remote locations, where power from the grid is unavailable. Considerations including possible power beaming links, system architectures, ground power densities for utility and safety, and other factors were examined.