

Abstracts

A Microwave Powered High Altitude Platform

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Recently the world's first flight of a fuelless airplane powered by microwave energy transmitted from the ground took place. A high-power transmitter at 2.45 GHz was used to beam energy to the aircraft circling overhead. A custom printed-circuit array of dipole antennas with associated rectifying diodes coating the underside of the plane converted the microwave energy to direct current to power the electric motor. This is the prototype of a much larger beamed microwave power transmission system that will have an unmanned airplane circle at high altitudes continuously for many months, and thereby be used as a platform for radio communications and surveillance applications.

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