

E90 Topic

Solar-powered Wireless Network for Sensory Systems

Currently, there are a number of low-power, high-frequency wireless standards on the market such as Bluetooth and Zigbee. These devices support point-to-multi-point communication and can achieve relatively high data transmission rates (above 100 Kbit/s) across medium distances (more than 100 m), with power consumption in the 100-mW range. The idea of this project is to design a wireless transceiver powered solely on solar energy, and then use a number of these transceivers to implement a mesh or some other suitable network topology. The final goal of this project would be the design, implementation and testing of the entire system, including the networking protocol. Such a wireless network could find applications in instances where sunlight is readily available and sensory or other data needs to be transferred across medium distances. It completely removes the need of wires for both data and power transmission, which makes the system easy to install and relatively inexpensive to maintain.

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