Abstract

Wireless energy transfer is a recent emerging technology in wireless sensor network. This technology is a promising alternative to the power constraint problem in wireless sensor networks. Energy is the important constraint in sensor network which can be improved by different technology. Energy harvesting techniques can scavenge some amount of energy but still it’s not enough. Lots of researchers put effort to solve this problem which results in wireless energy transfer. With the development in the technology, multiple nodes can be charged simultaneously by wireless charging vehicle.

Scheduling of wireless charging vehicle helps to improve the network lifetime. In addition to optimizing the travel time of the wireless charging vehicle the cost arising from travel path of charger between the nodes must also be taken into account. In this paper a (pso) based heuristics to schedule the travel path of wireless charging vehicle that takes into account both the travel cost and travel time. The result is experiment with a sample environment by varying its travel cost and travel time. Our results show that PSO can achieve shortest travel path and
cost is also saved as well as network lifetime is improved.

References


Index Terms

Computer Science

Algorithms

Keywords

Wireless energy transfer, sensor networks, Particle swarm optimization (PSO), Wireless charging Vehicle (WCV), travel path.