

Comparative analysis between chaos theory method and power system for WPT energy security application

Abstract

This paper reviews the techniques used in Wireless power transfer (WPT). WPT is one of the most useful ways to transfer power. Based on power transfer distances, the WPT system can be divided into three categories, namely, near medium, and far fields. Inductive coupling and capacitive coupling contactless techniques are used in the near-field WPT magnetic resonant coupling technique is used in the medium-field WPT. Electromagnetic radiation is used in the far-field WPT. In addition, energy encryption plays a major role in ensuring that power is transferred to the true receiver. Therefore, this paper reviews the energy encryption techniques in WPT system. A comparison between different technique shows that the distance, efficiency, and number of receivers are the main factors in selecting the suitable energy encryption technique.