

Wireless Power Transfer: A Critical Review

Abstract:

This seminar addresses the recent progress of wireless power transfer for short- and mid-range applications. The principles pioneered by Nicolas Tesla were first addressed. The maximum power transfer principle and the maximum energy efficiency principle are explained and compared. Some misunderstandings of magnetic resonance are clarified. Then key features that are essential to the safe commercialization of wireless power products for low-power and medium power applications are highlighted. Future challenges of wireless power transfer will be explained.

Biography:

Ron Hui is the Philip Wong Wilson Wong Professor of Electrical Engineering and Chair of Power Electronics at the University of Hong Kong. Since 2010, he concurrently holds the Chair of Power Electronics at Imperial College London. He has published over 160 refereed journals paper in power electronics and over 55 of his patents have been adopted by industry. His inventions on wireless power underpins key dimensions of the world's first wireless power standard "Qi" with the features of free-position and localized charging. He is an IEEE Fellow, recipient of the IEEE Rudolf Chope R&D Award and IET Crompton Medal. He is a fellow of the Australian Academy of Technological Sciences & Engineering.