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In-depth perception of dynamic inductive wireless power transfer development: A review
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Abstract
The emerging of inductive wireless power transfer (IWPT) technology provides more opportunities for the electric vehicle (EV) battery to have a better recharging process. With the development of IWPT technology, various way of wireless charging of the EV battery is proposed in order to find the best solution. To further understand the fundamentals of the IWPT system itself, an ample review is done. There are different ways of EV charging which are static charging (wired), static wireless charging (SWC) and dynamic wireless charging (DWC). The review starts with a brief comparison of static charging, SWC and DWC. Then, in detailed discussion on the fundamental concepts, related laws and equations that govern the IWPT principle are also included. In this review, the focus is more on the DWC with a little discussion on static charging and SWC to ensure in-depth understanding before one can do further research about the EV charging process. The in-depth perception regarding the development of DWC is elaborated together with the system architecture of the IWPT and DWC system and the different track versions of DWC, which is installable to the road lane.

Author Keywords
Dynamic wireless charging; Electric vehicle; Electromagnetic coupling; Inductive wireless power transfer; Power transmission efficiency; Static wireless charging; Wireless power transfer

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