Abstract
Power converters have typically employed dc voltage or current links for power distribution between the input and output terminals and as a means to temporarily store energy. The dc link based power conversion systems have several inherent limitations; one important of which is the high switching losses and high device stress which occur during switching intervals. This severely reduces the practical switching frequencies. Additionally, while the low cost, size, and weight of the basic voltage sourced PWM converter is attractive, difficulties with input harmonics, output dV/dt and over-voltage, EMI/RFI, tripping with voltage sags, and other problems significantly diminish the economic competitiveness of these converters. In the present work an alternative topology is introduced that accomplishes the same function as the dc link converter yet largely overcomes its drawbacks. The proposed converter is a high frequency partial resonant link converter which benefits from several significant advantages such as: high efficiency, light weight, unity power factor at input and low current THD. These characteristics make this converter an outstanding alternative for dc link converter.

Biography
Mahshid Amirabadi received her M.Sc. degree in electrical engineering, Power Electronics and Electrical Machines from University of Tehran, Iran in 2006 and her B.Sc degree in electrical engineering from Shahid Beheshti University, Tehran, Iran in 2002. She is currently pursuing her PhD degree in Electrical Engineering and performing research on the topic of compact bidirectional multiphase ac link converters under the guidance of Dr. Toliyat.