Half-day workshop

Design and Implementation of Military Power Supply
24V/5A with dual Input: Challenges and Experiences

طراحی و ساخت منبع تغذیه نظامی 24v/5A با ورودی دوگانه: چالش‌ها و تجربیات

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Description: Military power supplies have large IP because of special environment that they used. In this workshop, design and implementation procedures for a military power supply with following specifications will present: fan-less with IP 65, high density power supply with volume limitation, dual input as AC and DC types with wide range variations and unity Power factor. The workshop is useful for researchers and industry engineers that work on switching power supply technologies.

Main topics:
- Intro on limitation and challenges on switching power supply design
- Optimal design of transformers with multi input-multi output
- Protection against short circuit and voltage surges
- Decreasing temperature dependence of circuit elements
- Auxiliary power supply for gate drive and control circuits with wide range input variations
- Thermal and mechanical design for high temperature and vibration environments

Hamed Molla-Ahmadian was born in Mashhad, Iran, in 1982. He received the B.S. degree in electrical engineering from the Ferdowsi University of Mashhad, Mashhad, Iran, in 2004, the M.S. degree in electrical engineering from the Sharif University of Technology, Tehran, Iran, in 2007, and the Ph.D. degree in electrical engineering from Ferdowsi University of Mashhad in 2012. In 2007, he joined Khorasan Institute of Higher Education, Mashhad, Iran, where he is an Assistant Professor and head of power electronic research lab. Since 2008, he has been the Entrepreneur and the Chairman of Tajhizat Abzarazma Co, Mashhad, Iran. His research interests include the hybrid and switched systems, design, modeling and control of power electronic converters.

Morteza Shafiee was born in Aligoudarz, Lorestan, Iran, in 1993. He received the B.S. degree in electrical engineering from Khorasan Institute of Higher Education, Mashhad, Iran, in 2015 and he is currently an M.S. Student in electrical engineering of Khorasan Institute of Higher Education, Mashhad, Iran. Since 2014, he is working as a research assistant at power electronic research lab and he is working as a design technical expert in Pars Bamdad Nirogostar company, Mashhad, Iran since 2016, too. His interested research topics are design, modeling and control of power electronic converters and distributed generation systems.