

Workshop Proposal Form PEDSTC2018

AMIRKABIR UNIVERSITY OF TECHNOLOGY
(TEHRAN POLYTECHNIC)



Modelling and Simulation of Electric Motors Using Ansys-Maxwell 4 Hours Workshop

Lecturer Full Name: Mohamad Ali Vakilian Zand
Email: a.vakilian@aut.ac.ir
Mobile: +989379371182
Affiliation: Payafan Co. info@paya-bsa.ir

M.A Vakilian Zand received his bachelors in Electrical Engineering from Ferdowsi University of Mashhad, Iran. He subsequently did a master at Amirkabir University of Technology in Tehran where he improved the efficiency of an industrial 110KW induction motor using Finite Element Method (FEM). Since 2012, he has done several major research and industrial projects in electrical machine design and organized more than 7 Ansys Maxwell training workshops.

Main topics:

- ✓ Finite Element Method introduction
- ✓ Ansys Maxwell and sample projects introduction
 - ✓ A linear actuator simulation and deriving force, flux and electrical parameters
- ✓ A BLDC motor simulation and sensitivity analysis on PM size effect on output parameters

 (+98) 2164543307
(+98) 9300010342

 PEDSTC2018@aut.ac.ir

 www.pedstc2018.aut.ac.ir

 <https://t.me/PEDSTC2018>

 9th Floor of Abureyhan Building, 424 Hafez Ave, Tehran, Iran, 15875-4413.

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Description:

ANSYS Maxwell is the industry-leading electromagnetic field simulation software for the design and analysis of electric motors, actuators, sensors, transformers and other electromagnetic and electromechanical devices. With Maxwell, you can precisely characterize the nonlinear, transient motion of electromechanical components and their effects on the drive circuit and control system design. By leveraging Maxwell's advanced electromagnetic field solvers and seamlessly linking them to the integrated circuit and systems simulation technology, you can understand the performance of electromechanical systems long before building a prototype in hardware.

Minimum and maximum expected number of participants: Min: 5 Max: 25

Why your topic is interesting for participants:

Electrical machines design is strongly intertwined with good modeling and simulation. A correct simulation can play a key role in fabrication process. Ansys Maxwell is one of the most powerful software in Finite Element Method (FEM) simulation. We will pave the way for enthusiasts to start using this software and simulate their ideas.

What background participants should have (briefly explain)?
General background about electromagnetics and machine design

Please attach your CV, maximum in 4 pages, and additional information about the topic (if it is necessary)