

Presents the Fall 2013 EECS Seminar Series

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“Study on Bearingless Drives”
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ABSTRACT

Recently, the bearingless motors are attracting attention in variable speed drives due to some of its advantageous features as compared to the conventional motor drives. In the bearingless motors as there are no bearings, it is maintenance free and hence the longevity of the motor is increasing. The functions of motor and magnetic rotor levitation are successfully integrated so that the rotor shaft can be made shorter and at the same time it requires less number of inverters, controller and electric wires as compared to a motor with magnetic bearings. Thus, the overall size and cost of the bearingless machine is considerably reduced as compared to the machine with magnetic bearing.

In this seminar, I introduce the outline of bearingless motors. As a recent topic, furthermore, I explain in detail the bearingless motor with the integrated winding.

BIOGRAPHY

Masahide Ooshima (M'94-SM'13) was born in Aichi Prefecture, Japan, in 1965. He received the B.S. and M.S. degrees in electrical engineering from the Tokyo University of Science, Japan, in 1989 and 1991, respectively. He received the PhD degree in Electrical Engineering from the Tokyo Institute of Technology, Japan, in 2005.

He is a Professor in the Tokyo University of Science (TUS), Suwa. He has been engaged in research on bearingless drives, adjustable speed AC drives and super high-speed drives.

From 2004, he is the member of the Electric Machinery Committee and Motor Sub Committee in the IEEE Power Energy Society (PES). From 2010, he is the member of the IEEE Industry Application Society (IAS), Industrial Automation and Control Committee (IACC). From 2012, he is the Secretary of the Japan Chapter of IEEE Industry Applications Society. He is a senior member of IEEE from 2013.