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Automatic
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The Department of Automatic Control & Systems Engineering
is pleased to announce the following seminar:

Magnetic bearing control system and its applications

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Wednesday, 03 October 2018 at 14:00

Sir Henry Stephenson Building, LT02

Abstract

Magnetically suspended wheel is a rotary machine comprises a rotary rotor that is suspended by the magnetic bearings. Magnetic bearing is a kind of non-contact bearing, brought the merits of non-friction, slight vibration, longevity and high precision. These advantages make it has attracted much attention in applications of power storage, attitude actuator, turbine pumps, high-speed machine, and artificial hearts. The objective of the magnetic bearing control system is to precisely control the rotor position and avoid touchdown of the rotor. Magnetic bearing control system is a complex system with nonlinearity, strong-coupled disturbances, complicated unmodeled dynamics, and inherently unstable characteristics. The nonlinearity and coupled disturbance of the magnetic bearing, synchronous disturbance induced by rotor imbalance will be discussed in this talk.

Biography

Dr Yuanjin Yu received the PhD degree from the School of Precision Instruments and Machinery at Beihang University (BUAA), Beijing, China, in 2015. He served as a postdoctoral research fellow at Beihang University from 2015 to 2017. He is currently a postdoctoral research associate at the University of Manchester. His research interests lie in the control of magnetic systems and also multi-robot coordination systems. Dr Yu will join the University of Science and Technology Beijing, China, as an Assistant Professor in 2019.