Magnetic Bearing Seminar

by

DELTA JS AG

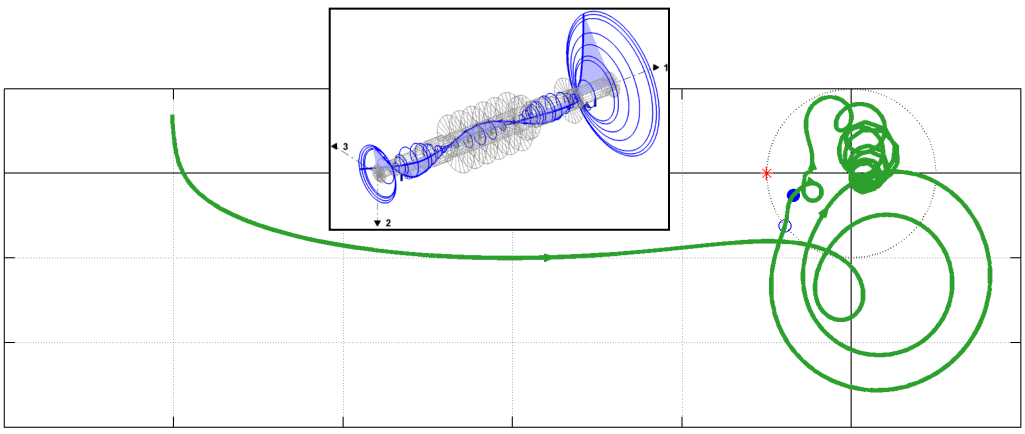
on June 16th and 17th 2020 in Zurich, Switzerland

DELTA JS is a leading engineering and consulting firm for rotor dynamics. Its proprietary, commercial software MADYN 2000 is widely used for industrial machinery to simulate rotor dynamics of complex rotor-gear-bearing systems with all types of bearings including active magnetic bearings.

The seminar is based on the experience of the DELTA JS engineering team with magnetic bearing applications in various types of machines. Among others DELTA JS has been involved in the pioneer work of applications in large industrial turbo compressors. Practical relevance therefore is ensured. The seminar explains the most important properties of magnetic bearings, the practical design of controllers, special features and some basics about back up bearings. Attendees will have the opportunity of hands on controller design with the help of MADYN 2000.

Who should attend? A thorough understanding of magnetic bearings is provided allowing the assessment of problems and risks involved in magnetic bearing applications. Thus, the seminar is suited for rotating equipment specialists of machine end-users and contractors as well as for design engineers, commissioning engineers, sales engineers and project managers of machine manufacturers and plant constructors.

The course instructor is Dr. Joachim Schmied, who is the founder of DELTA JS. He earned his doctorate at the Technical University of Darmstadt's Institute for Machine Dynamics in Germany. Before founding DELTA JS he has worked for twelve years in the turbomachinery industry, nine years as a development manager. Dr. Joachim Schmied has been a member of several scientific committees such as the "International Symposium on Magnetic Bearings" and the "International Federation for the Promotion of Mechanism and Machine Science (IFToMM)" and is the author of various path breaking papers in rotor dynamics.



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Contents of the Seminar (2 days):

- Introduction to Magnetic Bearings
  - Overview (advantages, machine designs, principle, components, general properties)
  - Detailed Properties (load capacity, basic formulas, dynamic characteristics, digital controller behaviour)
  - Controller Design (objectives, difficulties, design approach, rotor assessment, controller building blocks, coupling of axes and bearings)
  - Special Features (synchronous control, overload handling)
  - Back Up Bearings (design, behaviour in case of a drop)
  - Learning from some Experience
- Rotor Dynamic Analyses for Magnetic Bearing Applications
  - Analyses for the Rotor Assessment (critical speed map, natural modes of the free rotor, damping and stiffness variation of the bearings)
  - Modelling the Bearing, Practical Controller Design
  - Analyses of the Closed Loop System (stability, sensitivity, Campbell diagram, unbalance response)
  - Assessment of the Results (robustness, load capacity)

After each block there will be time for discussions. All attendees will receive seminar documents in English.

Fee and Payment

Seminar (2 days): CHF 2'000
including meals (2 lunches, 1 dinner) and refreshments

Invoice will be issued upon registration.

Organisational Information

The seminar will take place in the close environment of the Technopark Zurich, where the office of DELTA JS is located. Interested parties will be informed about the exact Seminar location and special hotel rates in due time.

There are several hotels within walking distance of the Technopark. Upon registration attendees will receive a list of these hotels. Please book your accommodation directly by contacting the hotel of your choice.

Attendees are invited to join an evening event on June 16th.

Registration: Online, fax, mail or e-mail to DELTA JS AG

Deadline for binding registration is June 11th.

Name:	Mrs./Mr.		
Company:			
Department:			
Address:			
Phone:		Fax:	
E-mail:			

DELTA JS reserves the right to cancel the seminar in case too few people sign up at this date.

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