



The Institute of Electrical Energy Conversion is engaged in the research and education of electric machines and their applications. Several research projects in machine design and drives are running and some have been successfully completed as industrial partnership or grant-aided, supported by the know-how and technical facility of the institute. Emerging engineering fields, which require multidisciplinary research and development works, are running at Darmstadt University of Technology, and in some projects our institute with its electrical machine know-how is building a part of research group together with other institutes.

Key Research Fields & Competence Areas:

- Ø Drives with High Power Density, High-Speed
- Ø System Analysis and Control of Vehicles with Electric Drives
- Ø Interaction of Machines and Inverters
- Ø Linear and Direct Drives
- Ø Wind Generators

Institute Highlights:

- Ø 60000 rpm Bearingless High-Speed PM-Machine
- Ø 40 kW, 40000 rpm Magnetic-levitated PM-Machine
- Ø Bearing Currents of Inverter-Fed Machines
- Ø Magnetic Actuator for Railway Applications
- Ø Modelling Power Train for A Hybrid Car
- Ø Modelling Motors for Design and Simulation Tools

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