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Research interests

Active Magnetic Bearings

Fractional Order Systems

Eddy Currents

Linear Drives

Highspeed Drives

Qualifications

Diplom, Technische Universität Dresden
2008 → 2014
Award Date: 14 Nov 2014

Employment

Academic Staff

Chair of Electrical Machines and Drives
Technische Universität Dresden
13 May 2015 → present

Research outputs

Highly Dynamic Thrust Bearing Control Based on a Fractional-Order Flux Estimator

Seifert, R. & Hofmann, W., Nov 2021, In: IEEE transactions on industry applications. 57, 6, p. 6988–6999 11 p.

Introduction of a Novel Highly Dynamic Thrust Bearing Control Based on a Fractional-Order Flux Estimator

Seifert, R. & Hofmann, W., 5 Sep 2021, *17th International Symposium on Magnetic Bearings*. p. 41-43 3 p. 14

Application of Selected Numerical Methods to Model the Fractional-Order System Behavior of Nonlaminated Magnetic Actuators

Hecht, M., Seifert, R. & Hofmann, W., 6 Jul 2021, 8 p. IEEE TechRxiv.

Consideration of Hysteresis, Saturation, Fringing and Leakage Fluxes in the Frequency-Dependent Analytical Model of Nonlaminated Cylindrical Actuators

Seifert, R., Porstmann, J. & Hofmann, W., 27 Apr 2021, 17 p. IEEE TechRxiv.

Rational Approximation of the Analytical Model of Nonlaminated Cylindrical Magnetic Actuators for Flux Estimation and Control

Seifert, R., Röbenack, K. & Hofmann, W., Dec 2019, In: IEEE Transactions on Magnetics. 55, 12, p. 1-16 16 p., 8301016.

Einführung in die fraktionale Flussschätzung in elektromagnetischen Aktoren

Seifert, R., Steiert, C., Hofmann, W. & Röbenack, K., 2019, In: Automatisierungstechnik. 67, 7, p. 572-586 15 p.

Sensorlose Flusssdichteregelung für axiale Magnetlager auf Basis fraktionaler Systeme
Seifert, R. & Hofmann, W., 2019, 12. *Workshop Magnetlagertechnik Zittau-Chemnitz*. p. 1-9 9 p.

Methodologies for the Analytical Design of Tubular Linear Vernier Synchronous Generators with Quasi-Halbach-Magnetization
Seifert, R., Micklitz, T., Mößner, B. & Hofmann, W., 2018, 23rd *IEEE International Conference on Electrical Machines (ICEM)*. p. 2035-2042 8 p.

Experimentelle Bestimmung der Rotorverluste eines dreipoligen kombinierten Radial-/Axialmagnetlagers aus Pulververbundwerkstoffen
Seifert, R., Fleischer, E. & Hofmann, W., Aug 2017, 11. *Workshop Magnetlagertechnik Zittau-Chemnitz*. p. 1-9 9 p.

Completion of analytical model of active magnetic thrust bearings including asymmetric air gap field between mixed materials
Seifert, R. & Hofmann, W., 2017, In: *Mechanical engineering journal*. 4, 5, p. 1-11 00696].

Switching loss minimization using two-configuration predictive control for a thermo-hydraulic linear PMSG
Bernet, D. & Seifert, R., 2017, *PCIM Europe 2017 - International Exhibition and Conference for Power Electronics, Intelligent Motion, Renewable Energy and Energy Management*. p. 1856-1863 8 p.

Thermohydraulischer Lineargenerator – Basis für einen dieselektrohydraulischen Hybrid
Hänel, F., Seifert, R., Kunze, G. & Hofmann, W., 2017, 6. *Fachtagung – Hybride und energieeffiziente Antriebe für mobile Arbeitsmaschinen*. p. 61-75 14 p.

Analytical Asymmetric Air Gap Model for Active Magnetic Thrust Bearings of Mixed Materials Including Eddy Currents
Seifert, R. & Hofmann, W., 2016, 15th *International Symposium on Magnetic Bearings*. p. 342-348 6 p.

Modellierung axialer Magnetlager aus Stahl- und SMC- Komponenten mit Wirbelstromeffekten
Seifert, R., Bahr, F. & Hofmann, W., 2015, 10. *Workshop Magnetlagertechnik Zittau-Chemnitz*. p. 1-7 7 p.

Untersuchung der Eisenkreiszeitkonstante eines axialen Magnetlagers
Seifert, R., Nov 2014, 154 p.

Multiobjective optimization of IPM synchronous motor using Response Surface Methodology and filtered Monte Carlo approach
Seifert, R. & Bargalló Perpiñà, R., Sep 2014, 2014 *International Conference on Electrical Machines (ICEM)*. p. 1307-1313 7 p. 14769282

Prizes

ETG-Literaturpreis 2020 der energietechnischen Gesellschaft des VDE
Seifert, Robert (Recipient), 2020

Highvolt-Preis 2015
Seifert, Robert (Recipient), 2015