

List of Publications

(by Aug. 2021)

SUMMARY

- published with over 70 co-authors
- 40% of all publications as first or single author
- h-index of 16
- i10-index of 30

Monographs/Books:

- [1] W. Gruber, "Beiträge zum lagerlosen Segmentmotor", ACCM Journal Series ‚Advances in Mechatronics’ ed. Trauner, vol. 2, ISBN 978-3-85499-776-4, 2011, in German
- [2] W. Gruber, "Bearingless slice motor systems without permanent magnetic rotors", LCM Journal Series ‚Advances in Mechatronics’, ed. Trauner, ISBN 978-3-99062-439-5, 2019
- [3] C. Fräger, W. Amrhein "Handbuch Elektrische Kleinantriebe", vol. 2, author of Chapter ‚Magnetic Bearings and Bearingless Drives’, ed. De Gruyter Oldenbourg, 2021, in press, in German

Editorials:

- [1] Special issue on Advances in Magnetic Bearing Technology, *Mechanical Engineering Journal*, ed. Japan Society of Mechanical Engineers, vol. 2, no. 4, August 2015
- [2] Special section on the 14th edition of the International Symposium on Magnetic Bearings (ISMB14), *Proceedings of the Institution of Mechanical Engineers, Part I: Journal of Systems and Control Engineering*, ed. SAGE Publications, vol. 231, no. 5, May 2017

Journals/Transactions:

- [1] W. Gruber, W. Amrhein, "Der lagerlose Segmentmotor", *Mechatronik F&M*, ed. Carl Hanser, vol. 116, pp. 62-64, Feb. 2008, in German
 - [2] W. Gruber, W. Amrhein, H. Grabner, "Regelung des lagerlosen Segmentmotors", *at-Automatisierungstechnik*, vol. 56, no. 3, ed. Oldenbourg, pp. 117-119, March 2008, in German
 - [3] P. Karutz, T. Nussbaumer, W. Gruber, J. W. Kolar, "Novel magnetically levitated two-level motor", *IEEE/ASME Trans. on Mechatronics*, vol. 13, no. 6, pp. 658-668, Dec. 2008
 - [4] F. Zürcher, T. Nussbaumer, W. Gruber, J. W. Kolar, "Comparison of 2- and 3-phase bearingless slice motor concepts", *JSME Journal of System Design and Dynamics*, vol. 4, no. 5, pp. 471-482, July 2009
 - [5] W. Gruber, W. Amrhein, M. Haslmayr, "Bearingless segment motor with five stator elements - Design and optimization", *IEEE Trans. on Industry Applications*, vol. 45, no. 4, pp. 1301-1308, Aug. 2009
 - [6] W. Gruber, W. Amrhein, T. Stallinger, "Bearingless segment motor with buried magnets", *JSME Journal of System Design and Dynamics*, vol. 3, no. 5, pp. 704-716, Sept. 2009
 - [7] F. Zürcher, T. Nussbaumer, W. Gruber, J. W. Kolar, "Design and development of a 26-pole and 24-slot bearingless motor", *IEEE Trans. on Magnetics*, vol. 45, no. 10, pp. 4594-4597, Oct. 2009
-

- [8] P. Karutz, T. Nussbaumer, W. Gruber, J. W. Kolar, "Acceleration performance optimization for motors with large air gaps", *IEEE Trans. on Industrial Electronics*, vol. 57, no 1, pp. 52-60, Jan. 2010
- [9] H. Grabner, W. Amrhein, S. Silber, W. Gruber: "Nonlinear feedback control of a bearingless brushless DC motor", *IEEE/ASME Trans. on Mechatronics*, vol. 15, no. 1, pp. 40-47, Feb. 2010
- [10] W. Gruber, T. Nussbaumer, H. Grabner, W. Amrhein, "Wide air gap and large-scale bearingless segment motor with six stator elements", *IEEE Trans. on Magnetics*, vol. 46, no. 6, pp. 2438-2441, July 2010
-
- [11] T. Reichert, T. Nussbaumer, W. Gruber, J. W. Kolar: "Bearingless permanent magnet motor with 4/12 slot-pole ratio for bioreactor stirring applications", *IEEE/ASME Trans. on Mechatronics*, vol. 16, no. 3, pp. 431-439, June 2011
-
- [12] H. Mitterhofer, W. Gruber, W. Amrhein: "On the high speed capacity of bearingless drives", *IEEE Trans. on Industrial Electronics*, vol. 61, no. 6, pp. 3119-3126, June 2014
- [13] W. Gruber, H. Grabner, S. Silber, W. Amrhein: "Design of a brushless permanent-magnet synchronous drive with a purely passively suspended rotor", *IEEE Trans. on Industry Applications*, vol. 50, no. 5, pp. 3258-3264, Sept.-Oct. 2014
-
- [14] W. Gruber, M. Rothböck, R. T. Schöb: "Design of a novel homopolar bearingless slice motor with reluctance rotor", *IEEE Trans. on Industry Applications*, vol. 51, no. 2, pp 1456-1464, March-April 2015
- [15] H. Mitterhofer, B. Mrak, W. Gruber: "Comparison of high speed bearingless drive topologies with combined windings", *IEEE Trans. on Industry Applications*, vol. 51, no. 3, pp. 2116-2122, May-June 2015
-
- [16] W. Amrhein, W. Gruber, W. Bauer, M. Reisinger: "Magnetic levitation systems for cost-sensitive applications - Some design aspects", *IEEE Trans. on Industry Application*, vol. 52, no. 5, pp. 3739-3752, Sept.-Oct. 2016
-
- [17] W. Gruber, K. Radman: "Modelling and realization of a bearingless flux-switching slice motor", *Actuators*, ed. MDPI, vol. 6, no. 2, March 2017
- [18] H. Mitterhofer, W. Gruber: "Effizienzsteigerung durch die und in der Magnetlagertechnik", *e&i Elektrotechnik und Informationstechnik*, ed. Springer, vol. 134, no. 2, pp. 191-196, April 2017, in German
- [19] W. Gruber, W. Bauer, K. Radman: "Comparison of homopolar and heteropolar bearingless reluctance slice motor prototypes", *Proceedings of the Institution of Mechanical Engineers, Part I: Journal of Systems and Control Engineering*, ed. SAGE Publications, vol. 231, no. 5, pp. 339-347, May 2017
- [20] W. Bauer, P. Freudenthaler, W. Gruber, W. Amrhein: "Experimental determination of dynamic system simulation parameters for a bearingless rotating-field axial-force/torque motor", *Proceedings of the Institution of Mechanical Engineers, Part I: Journal of Systems and Control Engineering*, ed. SAGE Publications, vol. 231, no. 5, pp. 348-359, May 2017
- [21] M. Noh, W. Gruber, D. L. Trumper: "Hysteresis bearingless slice motors with homopolar flux-biasing", *IEEE/ASME Trans. on Mechatronics*, vol. 22, no. 5, pp. 2308-2318, Oct. 2017
-
- [22] L. Zhou, W. Gruber, D. L. Trumper: "Position control for hysteresis motors: A field-oriented control approach", *IEEE Trans. on Industry Applications*, vol. 54, no. 4, pp. 3197-3207, July-Aug. 2018
- [23] T. Strinic, S. Silber, W. Gruber: "The flux-based sensorless field-oriented control of permanent magnet synchronous motors without integrational drift", *Actuators*, ed. MDPI, vol. 7, no. 3, July 2018

- [24] V. Jurdana, N. Bulic, W. Gruber: "Topology Choice and Optimization of a Bearingless Flux-Switching Motor with a Combined Winding Set", *Machines*, ed. MDPI, vol. 6, no. 4, Dec. 2018
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- [25] N. Turk, N. Bulic, W. Gruber: "Nonlinear Control of a Bearingless Flux-Switching Slice Motor with Combined Winding System", *IEEE/ASME Trans. on Mechatronics*, Oct. 2019
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- [26] A. Khamitov, W. Gruber, G. Bramerdorfer, E. Severson: "Comparison of Combined Winding Strategies for Radial Bearingless Machines", *Special Section on Magnetically Levitated Motor Systems in the IEEE Trans. on Industry Applications*, accepted 2021
- [27] B. Klammer, S. Silber, W. Gruber: "Automatized Bearingless Motor Design and Optimization in SyMSpace", *Special Section on Magnetically Levitated Motor Systems in the IEEE Trans. on Industry Applications*, under review 2021
- [28] K. Radman, W. Gruber, H. Mitterhofer: "Free-form topology optimization for magnetic arrays of planar levitation systems", *IEEE Magnetic Letters*, under review 2021
- [29] B. Wex, S. Silber, K. Kapsar, W. Gruber: "Fully automatized PWM loss calculation in multiphase PMSM and experimental verification", *IEEE Trans. on Industry Applications*, under review 2021

Peer Reviewed Conference Contributions:

- [1] W. Gruber, W. Amrhein, S. Silber, H. Grabner, M. Reisinger: "Theoretical analysis of force and torque calculation in magnetic bearing systems with circular airgap", *8th Int. Symp. on Magnetic Suspension Technology*, Dresden (Germany), Sept. 2005
-
- [2] W. Amrhein, S. Silber, W. Gruber: "Advanced design of electro-magnetic actuators", *10th Int. Conf. on New Actuators*, Bremen (Germany), June 2006
- [3] W. Gruber, W. Amrhein, "Design of a bearingless segment motor", *10th Int. Symp. on Magnetic Bearings*, Martigny (Switzerland), Aug. 2006
- [4] W. Gruber, W. Amrhein, M. Haslmayr: "Bearingless segment motor with five stator elements - design and optimization", *9th Int. Conf. on Electrical Machines and Systems*, Nagasaki (Japan), Nov. 2006
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- [5] W. Gruber, W. Amrhein: "Prinzip und Regelung eines lagerlosen Segmentmotors mit eingebetteten Magneten im Rotor", *Innovative Klein- und Mikroantriebstechnik, 7. GMM/ETG-Fachtagung*, Augsburg (Germany), June 2007, in German
- [6] P. Karutz, J. W. Kolar, W. Gruber, T. Nussbaumer, "The bearingless 2-level motor", *7th Int. Conf. on Power Electronics and Drive Systems*, Bangkok (Thailand), Nov. 2007
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- [7] W. Gruber, W. Amrhein, H. Grabner: "Analysis of axial vibrations for bearingless segment motors arising from parameter excitation", *12th Int. Symp. on Transport Phenomena and Dynamics of Rotating Machinery*, Honolulu (USA), Feb. 2008
- [8] P. Karutz, T. Nussbaumer, W. Gruber, J. W. Kolar: "Saturation effects in high acceleration bearingless motors", *IEEE Int. Symp. on Industrial Electronics 2008*, Cambridge (UK), June 2008
- [9] F. Zürcher, T. Nussbaumer, W. Gruber, J. W. Kolar: "Comparison of 2- and 3-phase bearingless slice motor concepts", *11th Int. Symp. on Magnetic Bearings*, Nara (Japan), Aug. 2008
- [10] W. Gruber, W. Amrhein, T. Stallinger: "Bearingless segment motor with buried magnets", *11th Int. Symp. on Magnetic Bearings*, Nara (Japan), Aug. 2008
- [11] P. Karutz, T. Nussbaumer, W. Gruber, J. W. Kolar: "Maximizing acceleration capability of magnetically levitated slice motors", *18th Int. Conf. on Electrical Machines*, Vilamoura (Portugal), Sept. 2008

- [12] T. Stallinger, W. Amrhein, W. Gruber: "Bearingless segment motor with buried magnets", *Junior Scientist Conf. 2008*, Vienna (Austria), Nov. 2008
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- [13] F. Zürcher, T. Nussbaumer, W. Gruber, J. W. Kolar: "Novel bearingless fractional slot motor", *IEEE Int. Magnetics Conf.*, Sacramento (USA), May 2009
- [14] T. Stallinger, W. Gruber, W. Amrhein: "Bearingless segment motor with a consequent pole rotor", *IEEE Int. Electric Machines and Drives Conf. 2009*, Miami (USA), May 2009
- [15] W. Gruber, W. Amrhein: "Lagerlose Segmentmotoren - Eine Übersicht", ETG Fachbericht 119, VDE Verlag GmbH, *Int. ETG Congress 2009*, Dusseldorf (Germany), Oct. 2009, in German
- [16] T. Reichert, J. W. Kolar, W. Gruber, T. Nussbaumer: "Design of a novel bearingless permanent magnet motor for bioreactor applications", *35th Annual Conf. on the IEEE Industrial Electronics Society*, Porto (Portugal), Nov. 2009
-
- [17] W. Gruber, T. Nussbaumer, H. Grabner, W. Amrhein: "Wide air gap and large scale bearingless segment motor with six stator elements", *11th joint Conf. on Magnetism and Magnetic Materials and Int. Magnetics Conf.*, Washington (USA), Jan. 2010
- [18] W. Amrhein, S. Silber, W. Gruber, T. Nussbaumer: "Trends and technical highlights in electromagnetic drives", *12th Int. Conf. and Exhibition on New Actuators*, Bremen (Germany), July 2010
- [19] D. Andessner, W. Gruber, W. Amrhein: "Fundamental wave analysis of the switched permanent magnet reluctance machine", *20th Int. Symp. on Power Electronics, Electrical Drives, Automation and Motion*, Pisa (Italy), July 2010
- [20] G. Bramerdorfer, G. Jungmayr, W. Amrhein, W. Gruber, E. Marth, M. Reisinger: "Bearingless segment motor with Halbach magnet", *20th Int. Symp. on Power Electronics, Electrical Drives, Automation and Motion*, Pisa (Italy), July 2010
- [21] W. Gruber, S. Silber, W. Amrhein, T. Nussbaumer: "Design variants of the bearingless slice motor", *20th Int. Symp. on Power Electronics, Electrical Drives, Automation and Motion*, Pisa (Italy), July 2010
- [22] W. Gruber, M. Huber, G. Jungmayr, W. Amrhein: "Passive tilt bearing composed of two PM rings", *12th Int. Symp. on Magnetic Bearings*, Wuhan (China), Aug. 2010
- [23] H. Mitterhofer, W. Amrhein, W. Gruber: "Towards high speed bearingless drives", *12th Int. Symp. on Magnetic Bearings*, Wuhan (China), Aug. 2010
-
- [24] W. Gruber, M. Huber, G. Jungmayr, W. Amrhein: "Passive tilt bearing configurations composed of permanent magnet rings", *IEEE Int. Magnetics Conf. 2011*, Taipei (Taiwan), April 2011
- [25] W. Gruber, J. Passenbrunner, G. Bramerdorfer, W. Amrhein: "Novel bearingless segment motor design with axial magnetized rotor magnets", *8th Int. Conf. on Power Electronics – ECCE Asia*, Jeju (Korea), May 2011
- [26] J. Passenbrunner, W. Gruber, G. Bramerdorfer, W. Amrhein: "Bearingless segment motor with axial magnetized rotor magnets", *3rd Int. Youth Conf. on Energetics*, Leira (Portugal), June 2011
- [27] W. Gruber, W. Briewasser, W. Amrhein: "Bearingless slice motor with four coils with combined force and torque generation featuring a novel operational behavior", *14th European Conf. on Power Electronics and Applications*, Birmingham (UK), Aug. 2011
- [28] W. Gruber, W. Bäck, W. Amrhein: "Design and implementation of a wheel hub motor for an electric scooter", *7th IEEE Vehicle Power and Propulsion Conf.*, Chicago (USA), Sept. 2011
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- [29] W. Amrhein, W. Gruber, W. Bauer, H. Mitterhofer: "Bearingless motors: Trends and technical advancements", *13th Int. Conf. and Exhibition on New Actuators and Drive Systems*, Bremen (Germany), June 2012

- [30] W. Gruber, H. Grabner, S. Silber, W. Amrhein: "Design of a brushless permanent magnet synchronous drive with a merely passively suspended rotor", *21st Int. Symp. on Power Electronics, Electrical Drives, Automation and Motion*, Sorrento (Italy), June 2012
- [31] W. Gruber, M. Rothböck, W. Briewasser, W. Amrhein and R. T. Schöb: "Bearingless reluctance slice motors", *13th Int. Symp. on Magnetic Bearings*, Arlington (USA), Aug. 2012
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- [32] W. Gruber, M. Rothböck, W. Briewasser, R. Schöb: "Bearingless slice motor concepts without permanent magnets in the rotor", *IEEE Int. Conf. on Industrial Technology 2013*, Cape Town (South Africa), Feb. 2013
- [33] W. Gruber, W. Bauer, W. Amrhein, R. T. Schöb: "Betrachtungen zum lagerlosen Flux-Switching Scheibenläufermotor", *9. Workshop Magnetlagertechnik Zittau-Chemnitz*, Chemnitz (Germany), Sept. 2013, in German
- [34] W. Gruber, M. Rothböck, R. T. Schöb: "Design of a novel homopolar bearingless slice motor with reluctance rotor", *5th IEEE Energy Conversion Congress and Exposition*, Denver (USA), Sept. 2013
- [35] W. Gruber: "Bearingless slice motors: General overview and the special case of novel magnet-free rotors", *9. GMM/ETG Fachtagung Innovative Klein- und Mikroantriebstechnik*, Nuremberg (Germany), Sept. 2013, as invited contribution
- [36] W. Gruber, W. Bauer, W. Amrhein, R. T. Schöb: "Considerations regarding bearingless flux-switching slice motors", *1st Brazilian Workshop on Magnetic Bearings*, Rio de Janeiro (Brasil), Oct. 2013
- [37] W. Gruber, M. Pichler, M. Rothböck, W. Amrhein: "Self-sensing active magnetic bearing using 2-level PWM current ripple demodulation", *7th Int. Conf. on Sensing Technology*, Wellington (New Zealand), Dec. 2013
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- [38] H. Mitterhofer, B. Mrak, W. Gruber: "Comparison of high speed bearingless drive topologies with combined windings", *Int. Power Electronics Conf. 2014*, Hiroshima (Japan), May 2014
- [39] W. Gruber, K. Radman, R. T. Schöb: "Design of a bearingless flux-switching slice motor", *Int. Power Electronics Conf. 2014*, Hiroshima (Japan), May 2014
- [40] W. Gruber, T. Hinterdorfer, H. Sima, A. Schulz, J. Wassermann: "Comparison of different motor-generator sets for long term storage flywheels", *22nd Int. Symp. on Power Electronics, Electrical Drives, Automation and Motion*, Ischia (Italy), June 2014
- [41] W. Gruber, W. Bauer, K. Radman: "Comparison of homopolar and heteropolar bearingless reluctance slice motor prototypes", *14th Int. Symp. on Magnetic Bearings*, Linz (Austria), Aug. 2014
- [42] K. Radman, N. Bulic, W. Gruber: "Loss analysis of a bearingless flux-switching slice motor", *14th Int. Symp. on Magnetic Bearings*, Linz (Austria), Aug. 2014
- [43] K. Radman, N. Bulic, W. Gruber: "Performance evaluation of a bearingless flux-switching slice motor", *6th Energy Conversion Congress and Exposition*, Pittsburgh (USA), Sept. 2014
- [44] K. Radman, W. Gruber, N. Bulic: "Control design of a bearingless flux-switching slice drive", *6th European Embedded Design Education and Research Conf.*, Milan (Italy), Sept. 2014
- [45] N. Bulic, K. Radman, W. Gruber: "Modeling of bearingless flux-switching slice motor", *Int. Conf. on Innovative Technologies 2014*, Leiria (Portugal), Sept. 2014
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- [46] W. Amrhein, W. Gruber, W. Bauer, M. Reisinger: "Magnetic levitation systems for cost-sensitive applications", *2nd IEEE Workshop on Electrical Machines Design, Control and Diagnosis*, March 2015
- [47] K. Radman, N. Bulic, W. Gruber: "Geometry optimization of a bearingless flux-switching slice motor", *IEEE Int. Electric Machines and Drives Conf. 2015*, Coeur d'Alene (USA), May 2015

- [48] W. Gruber, M. Stöckler: "On the self-sensing technique based on the interlink voltage of two phase coils in series", *11th IEEE Int. Conf. on Power Electronics and Drive Systems*, Sydney (Australia), June 2015
- [49] M. Puskaric, K. Radman, W. Gruber, N. Bulic: "Magnetically suspended laboratory system", *Int. Conf. on Innovative Technologies 2015*, Dubrovnik (Croatia), Sept. 2015
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- [50] W. Gruber, S. Silber: "20 years bearingless slice motor – its developments and applications", *15th Int. Symp. on Magnetic Bearings*, Kitakyushu (Japan), Aug. 2016
- [51] K. Radman, W. Gruber, N. Bulic: "High torque bearingless flux-switching slice drive", *15th Int. Symp. on Magnetic Bearings*, Kitakyushu (Japan), Aug. 2016
- [52] M. Noh, W. Gruber, D. L. Trumper: "Homopolar flux-biased hysteresis bearingless slice motors", *15th Int. Symp. on Magnetic Bearings*, Kitakyushu (Japan), Aug. 2016
-
- [53] W. Gruber, R. Remplbauer, E. Göbl: "Design of a novel bearingless permanent magnet Vernier slice motor with external rotor", *IEEE Int. Electric Machines and Drives Conf. 2017*, Miami (USA), May 2017
- [54] M. Noh, W. Gruber, D. L. Trumper: "Low-cost eddy-current position sensing for bearingless motor suspension control", *IEEE Int. Electric Machines and Drives Conf. 2017*, Miami (USA), May 2017
- [55] L. Zhou, D. L. Trumper, W. Gruber: "Position control for hysteresis motors: A field-oriented control approach", *IEEE Int. Electric Machines and Drives Conf. 2017*, Miami (USA), May 2017
- [56] T. Stallinger, E. Göbl, R. Remplbauer, W. Gruber: "Performance evaluation of a novel bearingless PM vernier motor", *IEEE 12th Int. Conf. on Power Electronics and Drive Systems*, Honolulu (USA), Dec. 2017
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- [57] B. Klammer, K. Radman, W. Gruber: "Dampening of axial vibrations in a bearingless flux-switching slice motor by field current regulation", *Int. Power Electronics Conf. 2018*, Niigata (Japan), May 2018
- [58] W. Gruber, S. Silber: "Dual field-oriented control of bearingless motors with combined winding system", *Int. Power Electronics Conf. 2018*, Niigata (Japan), May 2018
- [59] N. Kurita, W. Bauer, G. Jungmayr, W. Gruber, W. Amrhein: "Analysis and design of a bearingless axial-force/torque motor with flex-PCB winding", *Int. Power Electronics Conf. 2018*, Niigata (Japan), May 2018
- [60] M. Noh, W. Gruber, J. Speakman, M. J. Gartner, D. L. Trumper: "Homopolar bearingless slice motors driving reluctance rotors", *16th Int. Symp. on Magnetic Bearings*, Beijing (China), Aug. 2018
- [61] H. Mitterhofer, M. Rakov, W. Gruber: "Sum-flux rotor position sensor with self-balancing magnetic bearing concept", *16th Int. Symp. on Magnetic Bearings*, Beijing (China), August 2018
- [62] W. Gruber, K. Radman, E. Göbl: "Novel bearingless flux-switching motor with exterior rotor", *10th IEEE Energy Conversion Congress and Exposition*, Portland (USA), Sept. 2018
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- [63] W. Gruber, A. Zöchbauer, E. Göbl, H. Mitterhofer: "Lagerloser Hochgeschwindigkeits-Scheibenläufer mit genutetem Stator", *More Drive 2019*, Vienna (Austria), Jan. 2019, in German
- [64] B. Klammer, H. Mitterhofer, A. Zöchbauer, W. Gruber: "Topology comparison and design of a slotted bearingless high-speed motor", *IEEE Int. Electric Machines and Drives Conf. 2019*, Portland (USA), May 2019
- [65] W. Gruber, W. Bauer, D. Wetsch, N. Kurita: "Implementation of a bearingless axial-force/torque motor fan with flex-PCB windings", *IEEE Int. Electric Machines and Drives Conf. 2019*, Portland (USA), May 2019
- [66] G. Bramerdorfer, W. Gruber, A. Cavagnino, S. Vaschetto: "The working principle of flux switching machines", *22nd Int. Conf. on the Computation of Electromagnetic Fields*, Paris (France), July 2019

- [67] M. Sokolov, W. Gruber, S. Saarakkala, M. Hinkkanen: "Modeling of a bearingless synchronous reluctance motor with combined windings", *11th IEEE Energy Conversion Congress and Exposition*, Baltimore (USA), Sept. 2019
- [68] T. Strinic, W. Gruber: "Self-commissioning of permanent magnet synchronous machines by considering nonlinearities of the voltage source inverter", *45th Annual Conf. of the IEEE Industrial Electronics Society*, Lisbon (Portugal), Oct. 2019
- [69] R. Inomata, N. Kurita, W. Gruber, T. Okayasu: "Examination of layer structure of flex-PCB for bearingless axial force/torque motor", *Int. Conf. on Mechanical, Electrical and Medical Intelligent System 2019*, Kiryu (Japan), Dec. 2019
-
- [70] B. Antensteiner, P. Lamplmayr, M. Mörwald, M. Reisinger, W. Gruber, L. Häusler: "Gallium nitride in automotive high-speed drive applications", *11th Int. Conf. on Integrated Power Electronics Systems*, Berlin (Germany), March 2020, accepted – but conference postponed
- [71] R. Inomata, N. Kurita, Y. Takahashi, W. Gruber, T. Okayasu: Study on flex-PCB configuration for magnetic levitation motor windings, *10th IEEJ Tohigi-Gunma Branch Joint Research Presentation*, virtual, March 2020
- [72] W. Gruber, P. Enengl, M. Sokolov: "Design and measurement of a 6-phase combined winding bearingless synchronous reluctance slice motor", *ASPE 2020 Spring Topical Meeting - Design and Control of Precision Mechatronic Systems*, virtual, May 2020
- [73] B. Klammer, S. Silber, W. Gruber: "Fully automatized PWM harmonics analysis and loss calculation in multiphase PMSM with floating starpoint", *24th Int. Conf. on Electrical Machines*, virtual, Aug. 2020
- [74] A. Kumashiro, A. Chiba, W. Gruber, W. Amrhein, G. Jungmayr: "Investigation of combined electro-magnetic structure of bearingless motor and magnetic gear ", *11th IEEE Energy Conversion Congress and Exposition*, virtual, Sept. 2020
- [75] A. Kumashiro, A. Chiba, W. Gruber, W. Amrhein, G. Jungmayr: "Proposal of a surface mounted magnet magnetically geared motor with magnetic levitation of high speed rotor", *IEEJ Joint Conf. on Motor Drives, Rotating Machines and Linear Drives*, virtual, Sep. 2020 (in Japanese)
- [76] N. Kurita, R. Inomata, W. Gruber, T. Okayasu: "Examination of flex PCB configuration for a winding of a magnetic levitation motor", *23rd Int. Conf. on Electrical Machines and Systems*, virtual, Nov. 2020
- [77] A. Kumashiro, A. Chiba, H. Sugimoto, W. Gruber, W. Amrhein: "Proposal of magnetic geared motor with bearingless high-speed rotor", *23rd Int. Conf. on Electrical Machines and Systems*, virtual, Nov. 2020
- [78] B. Klammer, H. Mitterhofer, W. Gruber: "Active tilt compensation methods for bearingless disc motors", *10th Int. Conf. on Power Electronics, Machines and Drives*, virtual, Dec. 2020
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- [79] A. Kumashiro, A. Chiba, W. Gruber, W. Amrhein, G. Jungmayr: "Investigation of the relationship between suspension force and structure in magnetic geared motor with bearingless high-speed rotor", *IEEJ National Convention*, virtual, March 2021 (in Japanese)
- [80] W. Gruber, W. Stallinger: "Design and implementation of a 12.5kW PMSM used as paraglider towing winch", *IEEE Int. Electric Machines and Drives Conf.*, virtual, May 2021
- [81] A. Kumashiro, A. Chiba, W. Gruber, W. Amrhein, G. Jungmayr: "Investigation of suspension and magnetic attractive forces in magnetically geared motors with magnetically levitated high-speed rotors", *JSME/IEEJ/JAEM 33rd Symp. on Electromagnetics and Dynamics*, virtual, May 2021 (in Japanese)
- [82] W. Gruber, E. Marth, G. Jungmayr: "Semi-bearingless magnetic geared motor", *3rd IEEE Advances in Magnetics Conf.*, Moena (Italy), virtual, June 2021

- [83] K. Radman, W. Gruber, H. Mitterhofer: " Free-form topology optimization for magnetic arrays of planar levitation systems ", *3rd IEEE Advances in Magnetics Conf.*, Moena (Italy), virtual, June 2021
- [84] W. Gruber, S. Hell: "Bearingless axial-force/torque motor with reduced number of power switches", *17th Int. Symp. on Magnetic Bearings*, Rio de Janeiro (Brazil), Aug. 2021, accepted
- [85] T. Strinic, F. Omeragic, R. Schöb, W. Gruber: "Design considerations for 2-level bearingless homopolar motors", *17th Int. Symp. on Magnetic Bearings*, Rio de Janeiro (Brazil), virtual, Aug. 2021
- [86] K. Radman, W. Gruber, H. Mitterhofer: "Modelling of ironless levitation systems based on dipole magnets and point current sources", *17th Int. Symp. on Magnetic Bearings*, Rio de Janeiro (Brazil), Aug. 2021, accepted
- [87] L. Killingseder, A. Burgstaller, M. Freudenthaler, W. Gruber: "Development of an engine starter-generator and implementation of a power efficient starting procedure", *12th IEEE Energy Conversion Congress and Exposition*, Vancouver (Canada), Oct. 2021, accepted
- [88] A. Kumashiro, A. Chiba, W. Gruber, W. Amrhein, G. Jungmayr: "Investigation of slot structure and magnetic suspension force in magnetically geared motor with magnetically levitated high-speed rotor", *IEEJ Industry Applications Society Conference*, Aug. 2021 (in Japanese), accepted
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- [89] A. Kumashiro, A. Chiba, W. Gruber, W. Amrhein, G. Jungmayr: "Proposal of reluctance-type magnetic geared motor with bearingless motor integrated with a high-speed rotor", *International Power Electronics Conference – ECCE Asia*, May 2022, under review
- [90] W. Gruber, G. Jungmayr, E. Marth, A. Chiba: "Design of a magnetic geared bearingless slice motor ", *International Power Electronics Conference – ECCE Asia*, May 2022, under review