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Autore	Burke Kenneth A
Titolo	Development of passive fuel cell thermal management technology [[electronic resource] /] / Kenneth A. Burke, Ian Jakupca and Anthony Colozza ; prepared for the Seventh International Energy Conversion Engineering Conference (IECEC) sponsored by the American Institute of Aeronautics and Astronautics, Denver, Colorado, August 2-5, 2009
Pubbl/distr/stampa	Cleveland, Ohio : , : National Aeronautics and Space Administration, Glenn Research Center, , [2010]
Descrizione fisica	1 online resource (14 pages) : illustrations (chiefly color)
Collana	NASA/TM ; ; 2010-216773
Altri autori (Persone)	JakupcaIan ColozzaAnthony J
Soggetti	Fuel cells Cooling systems Temperature control Thermal conductivity Conductive heat transfer
Lingua di pubblicazione	Inglese
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Autore	Farshadnia Mohammad
Titolo	Advanced Theory of Fractional-Slot Concentrated-Wound Permanent Magnet Synchronous Machines / / by Mohammad Farshadnia
Pubbl/distr/stampa	Singapore : , : Springer Singapore : , : Imprint : Springer, , 2018
ISBN	981-10-8708-3
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Descrizione fisica	1 online resource (266 pages)
Collana	Springer Theses, Recognizing Outstanding Ph.D. Research, , 2190-5053
Disciplina	621.46
Soggetti	Power electronics Magnetism Magnetic materials Machinery Power Electronics, Electrical Machines and Networks Magnetism, Magnetic Materials Machinery and Machine Elements
Lingua di pubblicazione	Inglese
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Livello bibliografico	Monografia
Nota di contenuto	Introduction and Literature Review -- Analytical Modelling of Stator Magnetic Characteristics in Fractional-Slot Concentrated-Wound Permanent Magnet Machines -- Design of Optimal Winding Layouts for Multiphase Fractional-Slot Concentrated-Wound Permanent Magnet Machines -- Analytical Modelling of Rotor Magnetic Characteristics in an Interior Permanent Magnet Rotor -- Calculation of Airgap Function and Inductance in Fractional-Slot Concentrated-Wound Interior Permanent Magnet Machines -- Detailed Analytical Modelling of Electromagnetic Torque in Fractional-Slot Concentrated-Wound Interior Permanent Magnet Machines under Healthy and Open-Phase Fault Conditions -- An Extended dq Model for Fractional-Slot Concentrated-Wound Interior Permanent Magnet Machines Considering Non-Ideal Machine Parameters -- Conclusions and Future Works.
Sommario/riassunto	This book focuses on the analytical modeling of fractional-slot concentrated-wound (FSCW) interior permanent magnet (IPM) machines and establishes a basis for their magnetic and electrical analysis.

Aiming at the precise modeling of FSCW IPM machines' magnetic and electrical characteristics, it presents a comprehensive mathematical treatment of the stator magneto-motive force (MMF), the IPM rotor non-homogeneous magnetic saturation, and its airgap flux density. The FSCW stator spatial MMF harmonics are analytically formulated, providing a basis on which a novel heuristic algorithm is then proposed for the design of optimal winding layouts for multiphase FSCW stators with different slot/pole combinations. In turn, the proposed mathematical models for the FSCW stator and the IPM rotor are combined to derive detailed mathematical expressions of its operational inductances, electromagnetic torque, torque ripple and their respective subcomponents, as a function of the machine geometry and design parameters. Lastly, the proposed theories and analytical models are validated using finite element analysis and experimental tests on a prototype FSCW IPM machine.