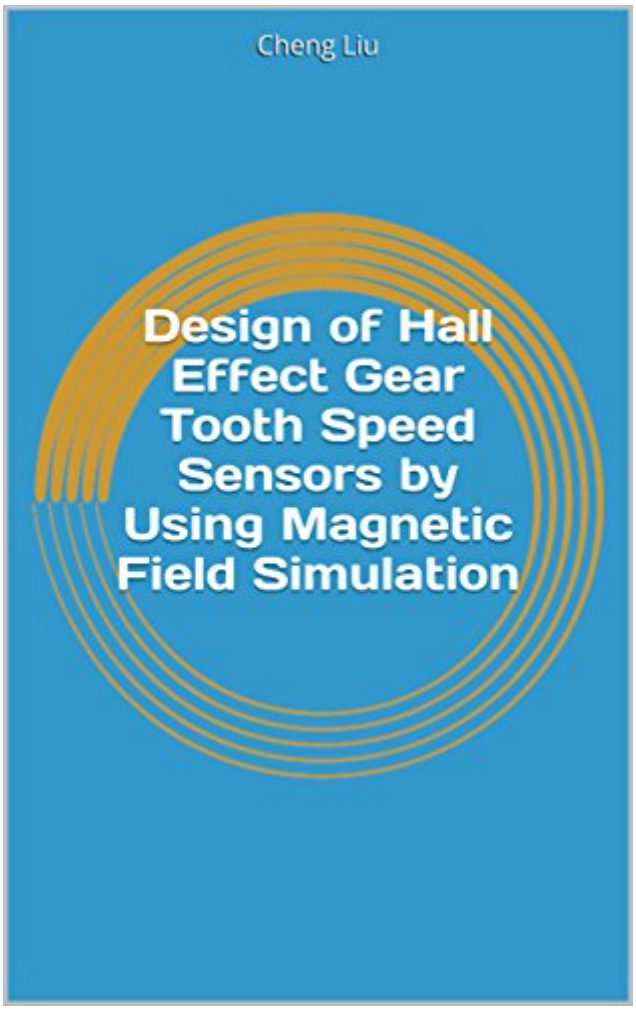
Design Of Hall Effect Gear Tooth Speed Sensors By Using Magnetic Field Simulation



Synopsis

In this paper design of Hall Effect Gear Tooth Speed Sensors by using Magnetic Field Simulation (MFS) is proposed for shortening development time and saving high experimental costs. The MFS is implemented with the software Ansoft Maxwell. The deviation between the simulation and measured results of magnetic flux density passed through Hall IC during rotating the target gear is corrected by a proposed calibration algorithm of adapting input parameters of the MFS. The presented methods are applied to the design and optimization of speed sensor CYGTS101DC-S and its target gear. After the optimization the duty cycle of the sensor output impulse is about 50% with relative error within Â 2%, and the sensing gap reaches 3.5mm.

Book Information

File Size: 743 KB

Publication Date: August 31, 2016

Sold by:Â Digital Services LLC

Language: English

ASIN: B01LD9A2VS

Text-to-Speech: Enabled

X-Ray: Not Enabled

Word Wise: Not Enabled

Lending: Not Enabled

Enhanced Typesetting: Not Enabled

Best Sellers Rank: #694,320 Paid in Kindle Store (See Top 100 Paid in Kindle Store) #91 inÂ Kindle Store > Kindle eBooks > Engineering & Transportation > Engineering > Mechanical > Drafting & Mechanical Drawing #112 inÂ Books > Engineering & Transportation > Engineering > Electrical & Electronics > Electronics > Sensors #422 inÂ Books > Engineering & Transportation > Engineering > Mechanical > Drafting & Mechanical Drawing

Productivity Speed of Thought = Speed of Play: 25 Training Sessions That Increase Speed of Play In Soccer Speed Reading: The Comprehensive Guide To Speed Reading â “ Increase Your Reading Speed By 300% In Less Than 24 Hours Introduction to Scientific Programming and Simulation Using R (Chapman & Hall/CRC The R Series) Introduction to Scientific Programming and Simulation Using R, Second Edition (Chapman & Hall/CRC The R Series) Seashells i-Clip Magnetic Page Markers (Set of 8 Magnetic Bookmarks) Throw Your Tooth on the Roof: Tooth Traditions from Around the World Our Cuisinart Ice Cream Recipe Book: 99 Ways to Frozen Yogurt, Soft Serve, Sorbet or MilkShake that Sweet Tooth! (Sweet Tooth Endulgences) (Volume 1) Our CuisinartÂ® Ice Cream Recipe Book: 125 Ways to Frozen Yogurt, Soft Serve, Sorbet or MilkShake that Sweet Tooth! (Sweet Tooth Indulgences) Atmospheric and Space Flight Dynamics: Modeling and Simulation with MATLABÂ® and SimulinkÂ® (Modeling and Simulation in Science, Engineering and Technology) Molecular Simulation Studies on Thermophysical Properties: With Application to Working Fluids (Molecular Modeling and Simulation) Cause & Effect: The September 11 Attacks (Cause & Effect in History) Making Things Talk: Using Sensors, Networks, and Arduino to See, Hear, and Feel Your World Engineering Design Optimization using Calculus Level Methods: A Casebook Approach: Math Modeling, Simulation, & Optimization Field-Effect Transistor Amp Analysis and Design Airplane Design Part IV: Layout Design of Landing Gear and Systems (Volume 4) Mechatronic Hands: Prosthetic and Robotic Design (Iet Control, Robotics and Sensors)