



Numerical Approaches to 3D Magnetic Mems

By Zoltan Nagy

GRIN Verlag. Paperback. Book Condition: New. Paperback. 88 pages. Dimensions: 8.3in. x 5.8in. x 0.2in. Masters Thesis from the year 2006 in the subject Engineering - Mechanical Engineering, grade: A, Swiss Federal Institute of Technology Zurich (Institute of Robotics and Intelligent Systems), language: English, abstract: The present work investigates the potential of the finite element method (FEM) in the design process of magnetic Micro-Electro-Mechanical-Systems (MEMS). The magnetic forces and torques acting on a magnetic body are of great importance in wireless actuating principles. Good models are required to allow for precise and predictable motion of the magnetic body. However, analytical results are only available for simple geometries and experiments are often time consuming and may have a certain number of uncertain parameters that may influence the results. Numerical methods, and in particular the finite element method, offer the possibility to study a magnetic body with known material properties in a well defined environment. Consequently, in this work, a method is proposed to calculate the net body torque on arbitrarily shaped bodies in a homogeneous magnetic field using the commercial finite element software Ansys. In addition, a procedure to determine the demagnetization factors of these bodies is given. The code...



READ ONLINE
[6.94 MB]

Reviews

A must buy book if you need to adding benefit. Of course, it is actually perform, still an interesting and amazing literature. I am delighted to explain how this is basically the best book i actually have read through during my individual life and may be he best book for at any time.

-- **Jarod Bartoletti**

It is an remarkable pdf that I actually have actually read. It really is packed with knowledge and wisdom I am very happy to tell you that this is the finest ebook i actually have go through during my very own life and may be he very best book for actually.

-- **Hailey Jast Jr.**