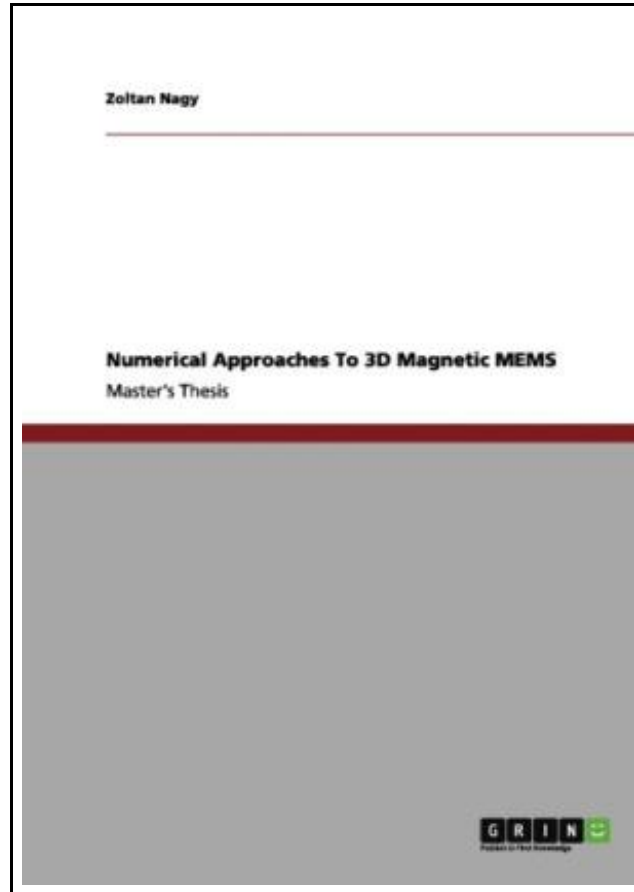


## Numerical Approaches to 3D Magnetic Mems



Filesize: 8.52 MB

### ***Reviews***

*This pdf is fantastic. It really is basic but shocks inside the 50 % in the pdf. I realized this pdf from my i and dad encouraged this pdf to discover.*

***(Hunter Witting)***

## NUMERICAL APPROACHES TO 3D MAGNETIC MEMS

[DOWNLOAD](#)

To read **Numerical Approaches to 3D Magnetic Mems** PDF, remember to follow the link under and save the document or have accessibility to additional information that are relevant to NUMERICAL APPROACHES TO 3D MAGNETIC MEMS ebook.

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 is first validated by the known analytical results for an ellipsoid. As an application, the demagnetization factors, as well as the net magnetic torque on brick shaped bodies and the IRIS Microrobot are calculated. A method is proposed to predict the torque acting on the Microrobot analytically. However, experimental results are necessary to confirm this method. Furthermore, Ansys is used to model magneto-structural coupling that is, the motion and deformation of a magnetic body due to an external magnetic field. Two devices are presented (as case studies rather than as actual design concepts), the magnetic resonator and the magnetic scratch...

[Read Numerical Approaches to 3D Magnetic Mems Online](#)[Download PDF Numerical Approaches to 3D Magnetic Mems](#)

## You May Also Like

**[PDF] Estrellas Peregrinas Cuentos de Magia y Poder Spanish Edition**

Click the hyperlink below to get "Estrellas Peregrinas Cuentos de Magia y Poder Spanish Edition" PDF document.

[Save Document »](#)

**[PDF] Multiple Streams of Internet Income**

Click the hyperlink below to get "Multiple Streams of Internet Income" PDF document.

[Save Document »](#)

**[PDF] Reflections From the Powder Room on the Love Dare: A Topical Discussion by Women from Different Walks of Life**

Click the hyperlink below to get "Reflections From the Powder Room on the Love Dare: A Topical Discussion by Women from Different Walks of Life" PDF document.

[Save Document »](#)

**[PDF] God Loves You. Chester Blue**

Click the hyperlink below to get "God Loves You. Chester Blue" PDF document.

[Save Document »](#)

**[PDF] TJ new concept of the Preschool Quality Education Engineering the daily learning book of: new happy learning young children (3-5 years) Intermediate (3)(Chinese Edition)**

Click the hyperlink below to get "TJ new concept of the Preschool Quality Education Engineering the daily learning book of: new happy learning young children (3-5 years) Intermediate (3)(Chinese Edition)" PDF document.

[Save Document »](#)

**[PDF] TJ new concept of the Preschool Quality Education Engineering the daily learning book of: new happy learning young children (2-4 years old) in small classes (3)(Chinese Edition)**

Click the hyperlink below to get "TJ new concept of the Preschool Quality Education Engineering the daily learning book of: new happy learning young children (2-4 years old) in small classes (3)(Chinese Edition)" PDF document.

[Save Document »](#)