

114
1-68/4m

IEEE TRANSACTIONS ON MAGNETICS

A PUBLICATION OF THE IEEE MAGNETICS SOCIETY

APRIL 2014

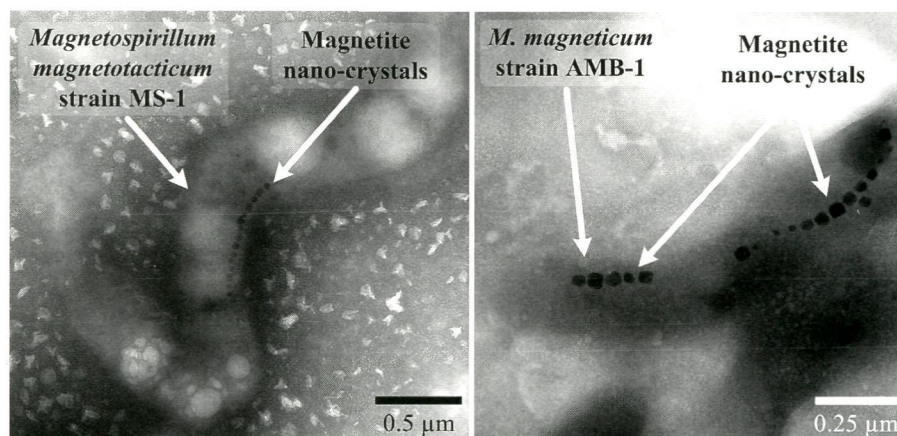
VOLUME 50

NUMBER 4

IEMGAQ

(ISSN 0018-9464)

PART II OF TWO PARTS



TEM images of the magnetotactic bacterium (MTB). The TEM images show the cells that envelope chains of magnetite nanocrystals. An MTB passively aligns itself along the magnetic field lines due to the exerted torque on its magnetic dipole.

From the paper "Control Characteristics of Magnetotactic Bacteria:

Magnetospirillum Magnetotacticum Strain MS-1 and

Magnetospirillum Magneticum Strain AMB-1," by

I. S. M. Khalil and S. Misra, on p. 5000211.

IEEE TRANSACTIONS ON MAGNETICS

A PUBLICATION OF THE IEEE MAGNETICS SOCIETY

APRIL 2014

VOLUME 50

NUMBER 4

IEMGAQ

(ISSN 0018-9464)

PART II OF TWO PARTS

Magnetism in Solids

- 1300110 **The Lorentz Force Law and its Connections to Hidden Momentum, the Einstein–Laub Force, and the Aharonov–Casher Effect**
M. Mansuripur

Magnetic Recording and Information Storage Devices and Technologies

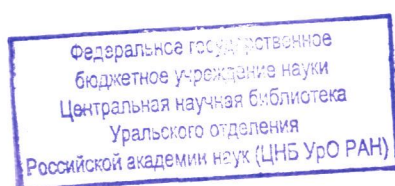
- 3201506 **Investigation of the Local Temperature Increase for Heat Assisted Magnetic Recording (HAMR)**
S. Xiong and D. B. Bogy
- 3301206 **Design of an Integrated Gradient-Index Light Condenser for the Light Delivery in a Heat-Assisted Magnetic Recording Head**
K. Tang, Q. Wang, G. Singh, and S.-T. Ho
- 3301306 **Numerical Analysis of Head Disk Interface Response During Operational Shock With Disk-Ramp Contact**
L. Li and D. B. Bogy
- 3301409 **Evolution of Diffusion-Related Degradation of Polymeric Lubricant Under Laser Heating: A Molecular Dynamics Study**
B. Li, C. H. Wong, and Q. B. Chen
- 3400107 **A 16 Kb Spin-Transfer Torque Random Access Memory With Self-Enable Switching and Precharge Sensing Schemes**
L. Zhang, W. Zhao, Y. Zhuang, J. Bao, G. Wang, H. Tang, C. Li, and B. Xu

Applied Magnetism and Phenomena

- 4300110 **Relation Between Static and Dynamic Magnetization Effects and Resonance Behavior in Ni Nanowire Arrays**
M. Sharma, B. K. Kuanr, M. Sharma, and A. Basu
- 4800104 **A Quantum Exchange Bias Model for Coupling Across a Nonmagnetic Interlayer**
F. Torres and M. Kiwi

Biomagnetics

- 5000104 **Effect of Extremely Low-Frequency (ELF) Magnetic Fields on the Potency of Drugs in Bacterial Cells**
M. Kakikawa, S. Imai, and S. Yamada
- 5000211 **Control Characteristics of Magnetotactic Bacteria: *Magnetospirillum Magnetotacticum* Strain MS-1 and *Magnetospirillum Magneticum* Strain AMB-1**
I. S. M. Khalil and S. Misra



5000307 **Hybrid Speed Control of a DC Motor for Magnetic Wireless Manipulation Based on Low Power Consumption: Application to a Magnetic Wireless Blood Pump**

S. H. Kim and K. Ishiyama

5300108 **Model Calculation of the Magnetic Induction Generated by Magnetic Nanoparticles Flowing Into a Microfluidic System: Performance Analysis of the Detection**

K. Fodil, M. Denoual, C. Dolabdjian, A. Treizebre, and V. Senez

Magnetic Measurements and Instrumentation

6300914 **Qualitative Analysis of P_x and P_y Components of Rotational Power Loss**

S. Zurek

Computation and Numerical Methods

7026711 **An Analytical Approach of Magnetic Diffusion in a Plate Under Time-Varying Flux Excitation**

A. T. Raminosa, C. Chillet, M. Fassenet, J.-P. Yonnet, and J.-Y. Voyant

7026806 **A New Analytical Calculation of the Mutual Inductance of the Coaxial Spiral Rectangular Coils**

Y. Cheng and Y. Shu

7200113 **Basis Functions With Divergence Constraints for the Finite Element Method**

C. M. Pinciuc, A. Konrad, and J. D. Lavers

Electromagnetism and Electromagnetic Devices

8100607 **Axial Flux Cycloidal Magnetic Gears**

K. Davey, L. McDonald, and T. Hutson

8100709 **Magnet Shape Optimization to Reduce Pulsating Torque for a Five-Phase Permanent-Magnet Low-Speed Machine**

F. Scuiller

8100810 **Investigation of Torque Characteristics in a Novel Permanent Magnet Flux Switching Machine With an Outer-Rotor Configuration**

W. Fei, P. C. K. Luk, D.-M. Miao, and J.-X. Shen

8100910 **Modeling Rotation in Electrical Machines**

L. Kettunen, S. Kurz, T. Tarhasaari, V. Räsänen, A. Stenvall, and S. Suuriniemi

8200809 **Back EMF Analysis of a Novel Linear Flux Switching Motor With Segmented Secondary**

S. E. Abdollahi and S. Vaez-Zadeh

8200909 **Rotor Radial Position Control and its Effect on the Total Efficiency of a Bearingless Induction Motor With a Cage Rotor**

A. Sinervo and A. Arkkio

8400708 **Fractal Inductors**

N. Lazarus, C. D. Meyer, and S. S. Bedair