

International Session in the Japan Geoscience Union Meeting 2006

**Perspectives of Geomagnetism:
Geodynamo, Paleomagnetism and Rock Magnetism
--- tribute to Prof. Masaru Kono**

地球磁場研究の新展開: ダイナモ, 古地磁気, 岩石磁気

May 16-18, 2006

Makuhari Messe International Conference Hall, Chiba, Japan

The International Session

Reception:

May 16 (Tue) 19:00- Restaurant NOA

Oral Sessions:

May 16 (Tue) 9:00-12:15 Rm. Ocean B

17 (Wed) 9:00-17:05 Rm. 303

18 (Thu) 9:00-17:00 Rm. 303

Poster Sessions:

May 16 (Tue) 17:15-19:15 Convention Hall

17 (Wed) 17:15-19:15 Convention Hall

Regular Session

“Geomagnetism / Paleomagnetism” (in Japanese)

Oral Session:

May 16 (Tue) 15:30-17:00 Rm. 301B

Poster Session:

May 16 (Tue) 17:15-19:15 Convention Hall

Sponsored by

Society of Geomagnetism and Earth, Planetary and Space Sciences (SGEPSS)

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An integrated COE for Observational and Computational Earth Science, University of Tokyo
"Predictability of the Evolution and Variation of the Multi-scale Earth System"

16 May

Oral session I (Joint session with plasma sciences on the origin of the magnetic field)

Chair: Y. Ono and M. Hattori

- 9:00-9:10** **Makoto Hattori**
Tutorial: Origin of cosmic magnetic field
- 9:10-9:30** **Tsunehiko Kato**
Magnetic field generation in collisionless shocks
- 9:30-9:45** **Kazuharu Banba and Jun'ichi Yokoyama**
Large-scale magnetic fields in inflationary cosmology
- 9:45-10:00** **Kiyotomo Ichiki**
Generation of cosmological magnetic fields from primordial density perturbations
- 10:00-10:15** **Yutaka Fujita and Tsunehiko Kato**
The generation of magnetic fields in galaxies and clusters of galaxies by the Weibel instability
- 10:15-10:30** **Nobuhiro Okabe**
Weibel instability driven by temperature gradients

(Break)

Chair: T. Yamazaki and A. Sakuraba

- 10:45-11:00** **Naoki Asai and Ryoji Matsumoto**
MHD simulations of plasmas in cluster of galaxies including radiative cooling and heat conduction
- 11:00-11:10** **Ataru Sakuraba**
Tutorial: A general introduction to geodynamo
- 11:10-11:25** **Ataru Sakuraba**
A mechanism of a jet-like flow in rotating spherical magnetoconvection
- 11:25-11:40** **Kumiko Hori and Shigeo Yoshida**
nonlocal memory effects of electromotive force by fluid motion with two-dimensional periodicity
- 11:40-11:55** **Akira Kageyama**
Recent developments of Yin-Yang dynamo simulation
- 11:55-12:15** **Futoshi Takahashi and Masaki Matsushima**
Dipolar and non-dipolar dynamos in a thin shell geometry

Poster session I

- 17:15-19:15** **Hisayoshi Shimizu**
On the use of boundary layer compatibility conditions for geodynamo modeling
- 17:15-19:15** **Yusuke Oishi, Ataru Sakuraba, and Yozo Hamano**
Geodynamo simulations with and without the inner core
- 17:15-19:15** **Hideo Tsunakawa, Futoshi Takahashi, and Nobutatsu Mochizuki**
Substantiation of the Gauss coefficients of the geomagnetic field
- 17:15-19:15** **Yusuke Suganuma, Toshitsugu Yamazaki, and Toshiya Kanamatsu**
Relative paleointensity record of the geomagnetic field during the past 750 kyr
- 17:15-19:15** **Toshitsugu Yamazaki, Yuhji Yamamoto et al.**
NW Pacific paleointensity stack of the last 250 kyr: choice of normalizer and reduction diagenesis
- 17:15-19:15** **Toshitsugu Yamazaki and Hirokuni Oda**
Equatorial Pacific Paleointensity Stack EPAPIS-3Ma
- 17:15-19:15** **Hiroki Ohshiro, Masayuki Torii, and Toshiaki Mishima**
Rock magnetic study of a deep-sea sediments from the eastern equatorial Pacific
- 17:15-19:15** **Noriko Kawamura, Atsuhito Ennyu, and Naoto Ishikawa**
The detection of greigite with thermal demagnetization of two-axis isothermal remanent magnetization

(Cont. 16 May)

The Regular Session of “Geomagnetism / Paleomagnetism”

Oral Session **Chair: A. Yoshihara and N. Mochizuki @Room 301B**

- 15:30-15:45** **H. Morinaga, et al.**
Paleomagnetic constraints on the extent of the stable body of the South China Block since the Cretaceous
- 15:45-16:00** **T. Ueki**
Paleomagnetic and rockmagnetic age estimate of the Nashinoki Gravel Formation south of the Matsumoto Basin, central Japan
- 16:00-16:15** **Y. Yagi, T. Mishima, M. Murayama, et al.**
Magnetic Stratigraphy of a marine core from Antarctic Ocean
- 16:15-16:30** **Y. Yamamoto and H. Hoshi**
Paleointensity study of the Sakurajima 1914 and 1946 lava flows (II)
- 16:30-16:45** **Z. Zheng and Y. Hamano**
How to separate magnetostatic interactions between particles or domains? Clues from high temperature FORC measurement
- 16:45-17:00** **H. Hatakeyama, Y. Yokoyama and M. Torii**
Effective visualization in geomagnetism and paleomagnetism

Poster Session @Convention Hall (2nd Floor)

- 17:15-19:15** **N. Ishikawa, Y. Motoyoshi, M. Hiroi, et al.**
Paleomagnetic study of the Cape-Hinode block in the Lutzow-Holm Complex, East Antarctica
- 17:15-19:15** **A. Yoshihara, N. Machii, K. Haraguchi, et al.**
Paleomagnetism of late Archean volcanic rocks in the Pilbara craton: the Pilbara APWP
- 17:15-19:15** **T. Kawasaki and H. Matsuoka**
Sedimentary environmental change identified with magnetic analysis on a sediment core obtained from south area of Lake Tai-hu
- 17:15-19:15** **F. Nishioka and M. Funaki**
Paleo- and rock magnetic study of Lonar Crater, India
- 17:15-19:15** **H. Oda, M. Joshima, A. Usui, et al**
Refinement of magnetostratigraphy of Mn crust
- 17:15-19:15** **N. Nakamura and M. Uehara**
Laser-selective stepwise demagnetization: Application of a new technique in paleomagnetism

17 May

Oral session II

Chair: M. Matsushima and H. Matsui

- 9:00-9:30** **Paul Roberts**
The present status of geodynamo theory
- 9:30-9:55** **Eiji Ohtani**
Light elements and energetics of the core
- 9:55-10:10** **Hiroaki Matsui and Bruce A. Buffett**
Large eddy simulation of a convection-driven dynamo using a dynamic scale-similarity SGS model
- 10:10-10:25** **Masaki Matsushima**
A scale-similarity model for the subrid-scale flux in the Earth's core

(Break)

- 10:45-11:00** **Futoshi Takahashi**
Numerical study of dynamo action in a rotating spherical shell at low Ekman numbers
- 11:00-11:20** **N. Schaeffer and Philippe Cardin**
Quasigeostrophic dynamos at low magnetic Prandtl numbers
- 11:20-11:45** **Yozo Hamano and Ataru Sakuraba**
Time spectrum of the dipole moment fluctuation
- 11:45-12:15** **Satoru Tanaka**
Seismology in the core

(Lunch)

Chair: H. Shimizu and F. Takahashi

- 13:45-14:10** **Philippe Cardin, T. Alboussiere, D. Brito et al.**
Detached shear layers in a rotating spherical Couetteflow of sodium with an imposed dipolar field
- 14:10-14:35** **Daniel P. Lathrop**
Laboratory models of astrophysical and geophysical MHD flows
- 14:35-14:50** **Takatoshi Yanagisawa, Yasuko Yamagishi, and Yuji Tasaka**
Measurements of velocity field for Rayleigh-Benard convection in liquid metal
- 14:50-15:05** **Seiki Asari, Hisayoshi Shimizu, and Hisashi Utada**
Properties of invisible flows in a tangentially geostrophic core surface flow model
- 15:05-15:30** **Andrew Jackson**
Implications of geomagnetic secular variation for understanding the core

(Break)

Chair: T. Yamazaki and Y. Suganuma

- 15:45-16:10** **Rob S. Coe, and G.A. Glatzmaier**
Symmetry and stability of Earth's magnetic field
- 16:10-16:35** **M.E. Evans**
Testing the dipole throughout geological time
- 16:35-16:50** **Toshitsugu Yamazaki, Toshiya Kanamatsu et al.**
Orbital modulation of the geomagnetic field versus rock-magnetic contamination
- 16:50-17:05** **Yukiko Yokoyama, Toshitsugu Yamazaki, and Hirokuni Oda**
Geomagnetic variation extracted from paleointensity of the equatorial and north Pacific Ocean

(Cont. 17 May)

Poster session II

- 17:15-19:15 Zhong Zheng, Xixi Zhao, and Naoko Ueno**
A new theory for acquisition of thermoremanent magnetization: temperature and interaction-field blocking model
- 17:15-19:15 Yuhji Yamamoto**
Comparative study of the Thellier and LTD-DHT Shaw methods
- 17:15-19:15 Nobutatsu Mochizuki, Hideo Tsunakawa et al.**
Palaeointensity study of the Brunhes-Matuyama reversal recorded in lavas in Punaruu valley, Tahiti
- 17:15-19:15 Hidefumi Tanaka**
Absolute paleointensities during the Brunhes Chron
- 17:15-19:15 Hidefumi Tanaka**
A simple classical model of paleosecular variation
- 17:15-19:15 Tadahiro Hatakeyama**
Constraints and inversed geomagnetic models
- 17:15-19:15 Yuko Kamishima, Masayuki Hyodo, and Shuji Matsu'ura**
A detailed study of Matuyama-Brunhes geomagnetic transition from Pleistocene sediments in Sangiran, Java, Indonesia
- 17:15-19:15 Kazuto Kodama, Toshiaki Mishima, and Masao Iwai**
Late Pliocene polarity reversals and transitions from an on-shore drilled core of Ananai Formation in southeast Shikoku, Japan
- 17:15-19:15 Takeyuki Ueki**
Remanent direction and paleointensity of welded tuff in central Japan related to the 580-605 ka Calabrian Ridge 3 excursion
- 17:15-19:15 Hirokuni Oda, Akira Ijiri, and Tadamichi Oba**
Geomagnetic excursions at 6 and 14 ka from East China Sea
- 17:15-19:15 Akira Hayashida, Hiroyuki Kitagawa, and Ali Mohammad**
Paleomagnetic secular variation from Lake Biwa updated with new AMS radiocarbon dates
- 17:15-19:15 Masahiro Toyoshima and Hidetoshi Shibuya**
Mapping of lunar magnetic field using linear inversion
- 17:15-19:15 Norihiro Nakamura**
Paleomagnetism of fine magnetic inclusions from faults and meteorites
- 17:15-19:15 Koji Fukuma**
Characterizing magnetic nanoparticle populations using temperature- and frequency-dependent susceptibility

18 May

Oral Session III

Chair: A. Yoshihara and Y. Yamamoto

- 9:00-9:30** **Mimi J. Hill**
The microwave palaeointensity technique
- 9:30-9:45** **Yuhji Yamamoto**
Geomagnetic field intensity during the last 5 Myr deduced by the LTD-DHT Shaw method
- 9:45-10:00** **Nobutatsu Mochizuki, Hideo Tsunakawa and Hidetoshi Shibuya**
K-Ar ages and palaeointensities of the Auckland geomagnetic excursions
- 10:00-10:30** **John A. Tarduno**
Long-term strength of the geodynamo

(Break)

- 10:45-11:00** **Arata Yoshihara, Nagisa Machii, and Kayoko Haraguchi**
Paleomagnetism of late Archean volcanic rocks in the Pilbara craton: the geomagnetic field intensity
- 11:00-11:30** **Andrew P. Roberts and Michael Winklhofer**
Why are geomagnetic excursions not always recorded in sediments?
- 11:30-11:45** **Hirokuni Oda, Koichi Nakamura et al.**
Island Basin excursion from Lake Baikal
- 11:45-12:00** **Hidetoshi Shibuya, Yuki Iwasaki, and Hidefumi Tanaka**
Senbongi excursion: the Jamaica/Biwa I event recorded in a lava flow in Unzen
- 12:00-12:15** **Toshiya Kanamatsu**
Relative paleointensity of slow-sedimentation rates

(Lunch)

Chair: N. Mochizuki and T. Hatakeyama

- 13:45-14:00** **Andrew P. Roberts and Qingsong Liu**
What is the real position of M/B boundary in marine sediments and chinese loess/paleosol sequences?
- 14:00-14:15** **Masayuki Torii, Noriko Kawamura and Hirokuni Oda**
Downcore change in rock magnetic parameters below iron redox boundary
- 14:15-14:45** **Shigenori Maruyama and Arata Yoshihara**
A new model of snowball Earth; the core controlled the surface environment of the Earth
- 14:45-15:00** **Yasushi Harada and Paul Wessel**
Motion of the paleomagnetic axis relative to hotspots
- 15:00-15:15** **Tadahiro Hatakeyama**
Hypothesis of the geocentric axial dipole field and apparent paleolatitude

(Break)

- 15:30-16:00** **Gunther Kletetschka, P.J. Wasilewski et al.**
Detection of the Mars convection pattern from magnetic anomalies
- 16:00-16:15** **Yoichi Usui, Norihiro Nakamura, and Tadashi Kondo**
High pressure complex magnetic susceptibility measurements under low temperature of magnetite: implication for shocked rock
- 16:15-16:30** **Takeshi Saito**
Different eruptive conditions at recent Unzen eruptions identified by magnetic petrological analyses
- 16:30-17:00** **Masaru Kono**
Paleomagnetism of lava flows from Iceland

Floor Information (Makuhari Messe International Conference Hall)

 Room for Sessions

