

**2009 International Workshop on Validation of Earthquake Precursors by
Satellite, Terrestrial and other Observations (VESTO)
Case studies of the recent Asian events**

1st Day (26 March 2009)

10:00 – 10:15 Opening (Dimitar Ouzounov and Katsumi Hattori)

Session A: **General topics** (Chair: Toshiyasu Nagao)

10:15 – 11:00 A.1 On short-term earthquake prediction: A personal view.
Seiya Uyeda (Invited)

11:00 – 11:45 A.2 Lithosphere-Atmosphere-Ionosphere Coupling model - An unified
concept for earthquake precursors validation
Sergey Pulnits and Dimitar Ouzounov (Invited)

11:45 – 13:00 Lunch & Poster session

Session A: **General topics & Wenchuan M7.9 Earthquake of May 12th 2008** (Chair:
Dimitar Ouzounov)

13:00 – 13:45 A.3 Retrospective investigation of geophysical data possibly associated with
the Ms8.0 Wenchuan earthquake
Qinghua Huang (Invited)

13:45 – 14:30 A.4 Precursors, Anomalies and Predictions Before the Wenchuan Ms8.0
earthquake and aftershocks
I-wan Chen (Invited)

14:30 – 15:00 A.6 Surface Temperature, Linear Clouds and Crust Deformation before
Wenchuan Earthquake
Lixin Wu, Jinping Li, and Shanjun Liu

**15:00 – 16:15 Coffee break, Q&A discussion. Topic of the day: “Wenchuan M7.9
Earthquake of May 12th 2008”**

16:15 – 17:00 A.5 Remote Sensing Observations of Earthquake Thermal Precursors of
India and Iran
Arun Saraf (Invited)

17:00 – 17:30 A.7 Ionospheric TEC anomalies prior to large earthquakes in Indonesia and
China - Statistical and case studies -
Masahide Nishihashi, Katsumi Hattori, Jann-Yenq Liu, and Michel Parrot

17:30 – 18:00 A.8 The electromagnetic precursors monitored by MDCB-5 instruments before three major earthquakes in Asia during 2004 – 2007 and lessons learnt from predictions on these earthquakes by the MDCB network
Wen-xiang Wang, Ping Wu, Lan-xiang Wan, Wu-yang Yang, Hui-ying Wang, Shang-gao Gu, Peng-cheng Wang, and En-hua Dong

18:00 – 19:00 Short Poster Presentations

2nd Day (27 March 2009)

Session B: **General topics & M7.0 Ping Tong (Taiwan) and M6.8 Chuetsu Oki (Japan) earthquakes** (Chair: Sergey Pulnits)

09:00 – 09:30 B.1 Results from DEMETER: Case studies and statistics
Michel Parrot (Invited)

09:30 – 10:15 B.2 Ionosphere parameters modified prior to large earthquakes and needs of satellite missions
Koh-Ichiro Oyama, Yoshihiro Kakinami, and Jann-Yenq Liu (Invited)

10:15 – 10:30 Coffee break

10:30 – 11:15 B.3 VLF/LF radio sounding of ionospheric perturbations associated with earthquakes and their possible mechanism
Masashi Hayakawa (Invited)

11:15 – 11:45 B.4 Possibility of the seismo-electromagnetic ULF emission studies with the use of the Nagoya magnetometer array
Slava Pilipenko and Kazuo Shiokawa

11:45 – 12:15 **Internet session.1**
Title T.B.D
Friedeman Freund

12:15 – 14:00 Lunch & Poster session

Session B: **General topics & M7.0 Ping Tong (Taiwan) and M6.8 Chuetsu Oki (Japan) earthquakes** (Chair: Qinghua Huang)

14:00 – 14:45 B.5 Earthquake precursors observed in the ionospheric F-region
Tiger Jann-Yenq Liu (Invited)

14:45 – 15:30 B.6 Multi sensor approach of validating EM atmospheric signals associated with major earthquakes. Case studies for the recent 2004-2008 Asian events. Dimitar Ouzounov, Sergey Pulinetz, Katsumi Hattori, Tiger Jann-Yenq Liu, Michel Parrot, Menas Kafatos, Shahid Habib, Fritz Policelli, and Patrick Taylor (Invited)

15:30 – 16:00 Coffee break. Q&A discussion. Topic of the day: “M7.0 Ping Tong (Taiwan) and M6.8 Chuetsu Oki (Japan) earthquakes”

16:00 – 16:30 B.7 Ionospheric Plasma Turbulence as a Precursor of the Earthquake
Jan Blecki, Michel Parrot, and Roman Wronowski

16:30 – 17:00 B.9 A study on the detection of seismo-electromagnetic abnormal phenomena before earthquakes and their fractal characteristics.
Yuichi Ida and Masashi Hayakawa

17:00 – 17:30 B.10 Tectonic Stress Wave, Micro-Fracture Wave, and A Modified Elastic-Rebound Model of Earthquake
Fuyuan Zhao

17:30 – 18:15 **Internet Sesion.2**

Recent advances on Seismic Electric Signals by employing natural time analysis
E.S. Skordas, N.V. Sarlis, M.S. Lazaridou, and P.A. Varotsos

18:15 – 20:00 Welcome Party

3rd Day (28 March 2009)

Session C: **General topics & M9.0 Sumatra earthquake** (Chair: Tiger Jann-Yenq Liu)

09:00 – 09:45 C.1 The current status of the seismo-electromagnetism in view of the Japanese national earthquake prediction research program
Toshiyasu Nagao (Invited)

09:45 – 10:30 C.2 A Case Study of ULF Anomaly Associated with the Sumatra–Andaman Earthquake on Dec. 26, 2004
K. Yumoto, M. G. Cardinal, K. Shiokawa, M. Ruhimat, and S. Saroso
(Invited)

10:30 – 10:45 Coffee break

10:45 – 11:15 C.3 The Analysis of GPS-TEC Variation Related with Large Earthquakes in Sumatra
Hendri Subakti, Sunarjo, Nanang T. Puspito, and Djedi S. Widarto

11:15 – 11:45 P.31 Earthquake forecast testing center for Japan: A Review
Kazuyoshi Nanjo, Hiroshi Tsuruoka, Naoshi Hirata, and CSEP Working group

11:45 – 13:45 Lunch & Poster session

Session C: **General topics & M9.0 Sumatra earthquake** (Chair: Masashi Hayakawa)

13:45 – 14:30 C.5 Remote sensing applications for Sumatra earthquake 26 Dec 2004.
Andrew Tronin (invited)

14:30 – 15:15 C.6 Seismo-Electromagnetic phenomena possibly associated with the 2004 Sumatra-Andaman earthquake
Katsumi Hattori (invited)

15:15 – 15:45 C.7 Abnormal infrasound signals before the Indonesia strong earthquakes
Yaqin Xia, Junzhi Li, and Weisheng Chen

15:45 – 16:15 Coffee break. Q&A discussion. Topic of the day: “ M9.0 Sumatra Earthquake”

16:15 – 16:45 C.9 An Integrated and Truncated Approach for Earthquake Prediction
Arun Bapat

16:45 – 17:15 C.10 The spatial pattern of the temporal SST variations during the 2004 Indian Ocean Earthquake
George Miliareisis and Akis Tselentis

17:15 – 18:00 Final discussion

Poster Presentation

- P01. Signatures of ionospheric anomalies in GPS-TEC prior to the large magnitude earthquakes in China region
Vishal Chauhan, O.P. Singh, and Birbal Singh
- P02. Seismo-ionospheric GPS TEC Anomalies Observed before the 12 May 2008 Mw7.9 Wenchuan Earthquake
J. Y.Liu, Y. I. Chen, C. H. Chen, C. Y. Liu, C. Y. Chen, M. Nishihashi, J. Z. Li, Y. Q. Xia, K.I. Oyama, K. Hattori, and C. H. Lin
- P03. Imminent precursors of M8.0 Wenchuan earthquake
Jun-zhi Li, Cheng-Yan Liu, Wei-sheng Chen, and Ya-qin Xia
- P04. Abnormal Phenomenon of NCEP before Wenchuan
Weiyu Ma, Wencheng Chen, and Lixin Wu
- P05. Ionospheric total electron content variation related to the 2007 Niigataken Chuetsu-oki Earthquake, Japan
Shimpei Kon, Masahide Nishihashi, and Katsumi Hattori
- P06. Relationship between the crustal activities and ULF geomagnetic field at South Boso Peninsula
Hisashi Ishikawa and Katsumi Hattori
- P07. ULF geomagnetic change associated with the 2008 Iwate-Miyagi Nairiku earthquake
Takuya Hirano, Hitomi Ogawa, Hisashi Ishikawa, and Katsumi Hattori
- P08. Direction finding of ULF/ELF geomagnetic field data possibility associated with the 2004 Sumatra-Andaman earthquake.
Takuya Hirano, Chie Yoshino, Katsumi Hattori, and Qinghua Huang
- P09. Monitoring of volcanic activity using MODIS data
Takafumi Noguchi, Nozomi Ohno, and Katsumi Hattori

- P10. Integrated measurement for seismo-electromagnetic study at Iyogatake station, Japan
Katsumi Hattori, Masahide Nishihashi, Takuya Hirano, Hisashi Ishikawa, Chie Yoshino, Shota Saito, Shinji Tokonami, Masashi Kamogawa, Toshiyasu Nagao, Nobuhiro Isezaki, Kiyoshi Wadatsumi, and Dimitar Ouzounov
- P11. The very clear “Drought-Earthquake Relation” medium-term precursor and strategic significance of earthquake medium-term prediction before the Wenchuan earthquake
Qing-guo Geng and I-wan Chen
- P12. A newly discovered earthquake electromagnetic precursor , its features and its appearance before the Wenchuan earthquake and aftershocks
Zhi-min Yang, Yan-hao Sun, and I-wan Chen
- P13. Theory and Methodology of Impending HRT Wave Precursors and Method of Earthquake Impending Prediction by Using HRT Wave
Fu-ye Qian, Yu-lin Zhao, and I-wan Chen
- P14. Impending HRT Wave Precursors to the 2006 Sumatra Ms9.2 Earthquake and Wenchuan Ms 8.0 Earthquake and Methods of Earthquake Impending Prediction by Using HRT Wave
Fu-ye Qian, Yu-lin Zhao, and I-wan Chen
- P15. The earthquake gestation physical model and impending physical precursors for the Ms 8.7 and Ms 8.5 earthquakes in the Indian Ocean
Wei Sun and I-wan Chen
- P16. The methodology verifying deterministic precursors and physical model of earthquakes
Wei Sun and I-wan Chen
- P17. Earthquake Originates from Interaction Between Planets of the Solar System
Yue-ming Wu, Ming-fu Cao, and I-wan Chen
- P18. The Evidence of Strong Earthquakes Triggering by Strong Strong Astronomical Tides
Dong-hong Yang, Xue-xiang Yang, and I-wan Chen
- P19. The Deterministic Atmospheric Density Advection Abnormality Precursors Before the 2004 Sumatra Earthquake, the 2008 Wenchuan Earthquake and Historical Earthquakes in China
Shou-zheng Tao and I-wan Chen

- P20. Analysis of terrestrial stress and telluric-current precursors monitored by one single earthquake observatory and prediction of occurrence dates, epicenter location and magnitude of earthquakes
Gen-shen Liu and I-wan Chen
- P21. Analysis of geomagnetic precursors leads to study of present crust structural movements revealing high hazard risk regions – Wenchuan earthquake
Tie-zhen Zhang and I-wan Chen
- P22. How one analyst studies of the electromagnetic precursors monitored by the MDCB network and uses the MDCB method to predict earthquakes within China during the second half of 2008
Li-ting An, Wu-yang Yang, and I-wan Chen
- P23. Using the MDCB method to analyze electromagnetic precursors before the Wenchuan EQ and aftershocks
Wen-xiang Wang
- P24. The Astronomical Background of Strong Earthquakes Wenchuan Ms8.0 in 2008, Taiwan Pingtung Ms7.0 in 2006 and Japan Chuetsu Oki Ms6.8 in 2007
Hui Hu and I-wan Chen
- P25. Wenchuan Earthquake Precursor–Satellite Infrared Abnormal Temperature Increasing Temporal-Spatial Evolution
Xiu-deng Xu, Bao-hua Xiu, Qing-yun Mao, and I-wan Chen
- P26. VHF interferometer and radio propagation property
Nozomi Ohno, Katsumi Hattori, Toshiaki Takano, and Isao Yamamoto
- P27. Principal component analysis of ULF electromagnetic data for automatic identifying anomalous changes
Shota Saito, Hisashi Ishikawa, Takuya Hirano, and Katsumi Hattori
- P28. On the statistical correlation between the ionospheric perturbations as detected by subionospheric VLF/LF propagation anomalies and earthquakes
Yasushi Kasahara, Yuichi Ida, Fumiya Muto, and Masashi Hayakawa
- P29. The birth of a pre-earthquake signal certified by fingerprint recognition
Yoshiki Sue
- P30.
Hong-Chun Wu

P31. Earthquake forecast testing center for Japan: A Review

Kazuyoshi Nanjo, Hiroshi Tsuruoka, Naoshi Hirata, and CSEP Working group

P32 (B.8) Precursors for M6.8 Earthquake occurred in Japan on July 16, 2007

Jun-zhi Li, Wei-sheng Chen, Ya-qin Xia, and Cheng-yan Liu

P33(C.4) ULF/VLF amplitude anomalies related to Indonesia earthquake of 26 December 2004

Birbal Singh

P34(C.8) Total Electron Content (TEC) anomalies related to large magnitude earthquakes occurred in South-East Asia during 2007

O.P. Singh, Vishal Chauhan, and Birbal Singh