

IAA Study Group Status Report

Responsible Commission: Commission 1 - Space Physical Sciences

Study Number and Title: SG1.14 - Title: Integrated Precursor Distinguish in Multi-Geophysical Fields around Global Earthquake Events with Magnitude larger than 7 in Recent 10 Years

Short Study Description (repeat from Study Group Proposal):

Earthquake anomaly distinguishing and determination is one of the most difficulties in the area of natural sciences in the world. Space observation have been showing strong capability to monitoring global seismicity and acquires ten`s times of case study than ground-based observation.

This proposal mainly focus on the case study of global strong earthquake during last 10 years to draw out the statistical characteristics of space-based precursors, including Ionospheric disturbances, Geomagnetic and geo-electrical fields, gravity field, infrared, remote sensing as well as crustal deformation by GNSS and InSAR, making connections among them in temporal and spatial distribution to ensure the reliability of anomaly and improve the distinguishing probability related to earthquakes, and try to make a proposal on global virtual system on earthquake monitoring from space by integrate different satellite resources with multi geophysical and geochemical parameters.

Developing and exploring the new way for earthquake monitoring and prediction, as well as the reliability analysis on anomalies in multi geophysical and geochemical parameters around same earthquakes. Advancing the establishment of the global virtual satellite constellation on earthquake monitoring, including electromagnetic, meteorological, infrared RS and hyper spectral satellites etc.

Progress in past six months:

Under the support of China Aerospace Science & Industry Corp., the project secretary Prof. Xuemin Zhang contacted with the IAA office and commission 1 secretary to confirm the project of “Integrated precursor distinguish in multi-geophysical fields around global earthquake events with magnitude larger than 7 in recent 10 years” . Then the IAA office make this project into the formal study group list as SG1.14, and then sent appointment letters to all the group members, and the pages with signatures have been scanned and fed back to IAA office from the chair and some members continuously.

On Sep. 22, 2015, we have the Kick-Off meeting in the Institute of Crustal Dynamics, CEA. Prof. Xuhui Shen hosted the meeting. Four international members of Prof. Dimitar Ouzounov, Michel Parrot, Katsumi Hattori, and Valerio Tramutoli attended this meeting with Chinese team. The proposal’s goal, methodology and timeline were introduced by Prof. Xuemin Zhang, the secretary of this proposal. The international scientists reported their new achievements in earthquake research in the different aspects, including electromagnetic field, infrared, geomagnetic field, GPS TEC and so on. Some presentations were also exhibited by Chinese members from Wuhan University and Institute of Earthquake Science, CEA, about the earthquake precursors distinguishing and spheres coupling mechanism. Finally the meeting plan related to this proposal was made in next year and 2017.

Website Study Information update: (please give any update regarding Study Group Membership, documents, Study Plan and Schedule):
Some members will send back their signatures for appointment, please update it in time.

Issues requiring resolution? (recommend approach):
Nothing.

Product Deliveries on Schedule? (If modified explain rationale):
Yes. Our study group was approved by the IAA in June 2015. We will complete the task in 3 years.

Study Team Member Changes? (List any Study Team Members that you wish to discontinue, and provide names plus contact coordinates of any Members you wish to add on the second page of this Study Update form.) Note: Complete contact information including email, tel. and fax must be provided for all additions. Only Members with complete contact information will be listed and receive formal appointment letters from the IAA Secretariat.)

Yes.

All the members whose names were not found in the membership list of IAA website about SG1.14 were asked to submit their appointment approval to IAA office as soon as possible.

We recommend new international members to participate into this proposal.

In the meantime, the most recent list of study group members includes:

Chair: Bao Weimin

Co-Chair: Contant Jean-Michel

Co-Chair: Kuznetsov Vladimir

Secretary: Xuemin Zhang

Membership:

Cao Jinbin

Du Jianguo

He Liming

Ouzounov Dimitar

Shen Xuhui

Name of person providing Study Group Status (Study Group Chair or Co-Chair):

Dr. Weimin Bao (Study Group Chair)

Status Report Date: September 24, 2015

Study Team Membership Changes

Effectivity Date:

Discontinue:

Name
Current email address

Name
Current email address

Name
Current email address

Add:

Name: Jann-Yenq Liu

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Phone: +886-3-4227151 ext. 65763/Fax: +886-3-4224394

Mailing address: Institute of Space science, National Central University, Chung-Li 320, Taiwan

Name: Tetsuya Kodama

Current email address: kodama.tetsuya(at)jaxa.jp

Tel./Fax:

Mailing address: Satellite Operation Engineering Department, Office of Satellite Application, JAXA, 2-1-1, Sengen, Tsukuba, Ibaraki 305-8505, Japan

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