

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 kept contact with the IAA office and commission 1 secretary to confirm the appointment in this project, until now the project chair and co-chairs all send their approval letters to IAA office, and all of the members have sent back their appointment signature letter to IAA office. Prof. Zhang checked the website in August 2017 of SG1.14 group, and the membership list has been updated correctly.

In March, Prof. Jingfa Zhang attended the IAA meeting in Paris, and report the development of SG1.14 on the commission 1 meeting.

On May 19-26, 2017, Prof. Xuemin Zhang attended the JpGU-AGU 2017 meeting hold by the Japan Geoscience Union, and 4th Internation Workshop on Earthquake preparation Processes 2017 (hosted by one of our members Prof. Katsumi Hattori at Chiba University). Prof. Zhang gave invited presentations in both meetings, about the new progress of CSES in science and technology, and their research on the earthquake preparation processes and the LAIC coupling mechanism.

Two meetings about the IAA final report have been held by Prof. Xuemin Zhang in April and July, the first version of the final report of SG1.14 in Chinese have been finished and checked by the experts to improve it at present. The English version is under preparation.

On Sep. 21-25, Prof. Xuemin Zhang will attend the IAC 2017 meeting in Australia, and mainly attend the IAA commission meeting before the IAC 2017. She will present the new development about this project on the meeting.

Website Study Information update: (please give any update regarding Study Group Membership, documents, Study Plan and Schedule):

The membership list has been updated correctly.

Issues requiring resolution? (recommend approach):

Nothing.

Product Deliveries on Schedule? (If modified explain rationale):

Yes.

In this year, the draft report has been finished in July with Chinese Edition, and the English edition will be provided at the end of 2017. Next year, the final report is planned to publish.

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.)

Nothing.

The list of study group members on the website is Ok. It includes:

Chair: Bao Weimin

Co-Chair: Contant Jean-Michel

Co-Chair: Kuznetsov Vladimir

Secretary: Xuemin Zhang

Membership:

Cao Jinbin

Du Jianguo

Hattori Katsumi

He Liming

Kodama Tetsuya

Liu Jann-Yenq

Ouzounov Dimitar

Parrot Michel

Picozza Piergiorgio

Pulinets Sergey A.

Ruzhin Yury

Shen Xuhui

Tramutoli Valerio

Zhou Chen

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

Study Group Chair: Academician Weimin Bao (Study Group Chair),
Secretary: Prof. Xuemin Zhang

Status Report Date: August 28, 2017