

## 7th Spaceguard Symposium

Date : November 6, 2014

Place : National Astronomical Observatory of Japan

### Session 3 <International Session>

#### Asteroid Observation Network in Asia-Pacific Region

##### Program:

- 15:30 Proposal for Asteroid Observation Network in Asia-Pacific Region  
Makoto Yoshikawa (JAXA), Junichi Watanabe (NAOJ), Noritsugu Takahashi (JSGA)
- 15:45 Thailand's Robotic Telescope Network for NEO and Space Debris Observation  
Saran Poshyachinda (National Astronomical Research Institute of Thailand) and Thagoon Kirdkao (Royal Thai Air Force)
- 16:00 NEO Survey and alarming of China  
Haibin Zhao (Purple Mountain Observatory)
- 16:15 Asteroid Observation in Korea (TBD)  
Young-Jun Choi (KASI)
- 16:30 Asteroid Observation in Taiwan (TBD)  
Kinoshita Daisuke (National Central University)
- 16:45 Optical Observations and Color Survey of Near Earth Asteroids  
Chien-Hsien Lin (Space Science Institute, Macau University of Science and Technology, Macau) and Wing-Huen Ip (Graduate Institute of Astronomy, National Central University, Taiwan)
- 17:00 Asteroid Observation in Mongolia  
N.Tungalag (Research Center of Astronomy and Geophysics, Ulaanbaatar, Mongolia), S.Schmalz (Leibniz Institute for Astrophysics, Potsdam, Germany), V.Voropaev, I.Molotov (Keldysh Institute of Applied Mathematics, RAS, Moscow, Russia)
- 17:15 Observations of Small Bodies and Space Debris Information System in Indonesia  
B. Dermawan\*, M. Putra\*, T. Hidayat\*, C. Y. Yatini\*\*, BO Team\*, and SDIS Team\*\*  
\* Bosscha Observatory and Astronomy Research Division, Bandung Institute of Technology, Indonesia  
\*\* National Institute of Aeronautics and Space, Indonesia
- 17:30 Finding NEOs in the Context of an Agency Grand Challenge  
Lindley Johnson (NASA HQ) and Paul Abell (NASA JSC)
- 17:45 Discussions

## **Abstract:**

### **Proposal for Asteroid Observation Network in Asia-Pacific Region**

**Makoto Yoshikawa (JAXA), Junichi Watanabe (NAOJ), Noritsugu Takahashi (JSGA)**

In the APRSAF (Asia-Pacific Regional Space Agency Forum) last year, we proposed to make Asteroid Observation Network in Asia-Pacific Region. The purposes of this network is to enhance observations for asteroids, especially NEO (Near Earth Object). We have asked some researchers to join this network and we had many positive responses. In this talk we summarize the current status and show our future plan.

### **Thailand's Robotic Telescope Network for NEO and Space Debris Observation**

**Saran Poshyachinda (National Astronomical Research Institute of Thailand) and Thagoon Kirdkao (Royal Thai Air Force)**

National Astronomical Research Institute of Thailand (NARIT) is planning to install a network of robotic telescopes and several locations at both northern and southern hemispheres. These 0.6-0.7 m diameter telescopes will serve NARIT in several fields of research including for public outreach purposes. NEO and space debris monitoring is also on the agenda. In this talk, this robotic telescope network is explained in detail as well as NARIT's intention to join international efforts regarding NEO and space debris monitoring.

### **NEO Survey and alarming of China**

**Haibin Zhao (Purple Mountain Observatory)**

Abstract TDB

### **Asteroid Observation in Korea (TBD)**

**Young-Jun Choi (KASI)**

Abstract TDB

### **Asteroid Observation in Taiwan (TBD)**

**Kinoshita Daisuke (National Central University)**

Abstract TDB

### **Optical Observations and Color Survey of Near Earth Asteroids**

**Chien-Hsien Lin (Space Science Institute, Macau University of Science and Technology, Macau) and Wing-Huen Ip (Graduate Institute of Astronomy, National Central University, Taiwan)**

The Space Science Institute in Macau University of Science and Technology has a research program on small bodies of solar system, especially for Near Earth Asteroids (NEAs) due to their increasing significance of impact hazard and utilization of resource in the future. We have collaboration with some telescopes of different institutes and observatories in Taiwan, China and USA. Those telescopes able to observe NEAs range from 40 cm to 2.4 m. The main purpose of our observations is to survey the surface color of NEAs and find their color variations if possible by using broad-band filters. The distribution of colors could provide the information of the taxonomic map of NEAs. The talk here would also present some preliminary results.

### **Asteroid Observation in Mongolia**

**N.Tungalag (Research Center of Astronomy and Geophysics, Ulaanbaatar, Mongolia), S.Schmalz (Leibniz Institute for Astrophysics, Potsdam, Germany), V.Voropaev, I.Molotov (Keldysh Institute of Applied Mathematics, RAS, Moscow, Russia)**

Asteroid observations at Khureltogoot observatory were started in 2014. Main instrument is the 40 cm telescope ORI-40 with the field of view of  $2.3 \times 2.3$  degrees, on a robotic WS-240 mount. On February, 2014 the observatory was assigned the observatory code O75 of the Minor Planet Center (MPC). Multiple observations were carried out with the goal of discovery of new objects. Results showed that the detection magnitude limit of instrument is at  $\sim 19.5$  mag, therefore it is difficult to discover new asteroids. Also are carried out NEO confirmation observations and 4 NEO confirmations were issued by the MPC in circulars (MPEC), in which ISON-Khureltogoot Observatory (O75) appears as the confirming observatory.

### **Observations of Small Bodies and Space Debris Information System in Indonesia**

**B. Dermawan\*, M. Putra\*, T. Hidayat\*, C. Y. Yatini\*\*, BO Team\*, and SDIS Team\*\***

**\* Bosscha Observatory and Astronomy Research Division, Bandung Institute of Technology, Indonesia**

**\*\* National Institute of Aeronautics and Space, Indonesia**

Observations of asteroids and comets have been conducted for some occasions at Bosscha Observatory, Indonesia. In the mean time, National Institute of Aeronautics and Space is also maintaining space debris information system. Here in this talk, we describe our existing conditions and explain a plan about the development of observing schemes of small bodies and space debris, in line with the establishment of a new astronomical site at Timor island and a network of NEO observation in Asia-Pacific region. BO: Bosscha Observatory SDIS: Space Debris Information System

### **Finding NEOs in the Context of an Agency Grand Challenge**

**Lindley Johnson (NASA HQ) and Paul Abell (NASA JSC)**

Abstract TDB