Brief Introduction of activities of China-ESA GNSS-R work group

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19-June-2015
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1. Introduction-China-ESA GNSS-R work group

- In Nov. 2011, MOST and ESA signed a cooperation agreement on space science and technology area.
- During Munich satellite navigation summit in March 2012, Prof. Hein (ESA) and Jing Zhao (NRSCC) discussed on the cooperation interest in GNSS-R.
- Both sides agreed to set up the joint work group in Jun. 2012 and appointed five members in China side:
  - Convener/Coordinator: Dongkai Yang
  - Member: Yunchang Cao, Yueqiang Sun, Yun Zhang, Songhua Yan
2. Joint activities—workshops

- during 19-22 July, 2012, the work group organize the first workshop in ESTEC, Netherland. 16 delegates
- in 29/8/2013, Shenzhen, workshop on the joint experiment
- Teleconference on the status of TIGRIS in 30/8/2013 and 27/9/2013
the 2nd workshop held in Shanghai in 14 and 15, October 2013.
The 3rd workshop held in Spain during 9-10 in October 2014
2. Joint activities- simulation and experiments 1

- From July to September 2013, China-Europe jointly performed typhoon detection test in Shenzhen. It lasts 3 months and detect three Typhoons such as JEBI, UTOR and USAGI.

![Correlation Power waveform area value (BeiDou) 2013 August, 3rd, 2am](image)
2. Joint activities - simulation and experiments 2

• Soil moisture data analysis from Aug 2014 to June 2015
2. Joint activities - simulation and experiments 3

• This is the Tsunami process simulation for the sea surface height and the GNSS-R coverage analysis.
2. Joint activities—Talents exchanging

• In 2012, Dr. LI Weiqiang studied in ESTEC for 3 months on “Typhoon observation using PARIS IoD” (supervised by Manuel Martin-Neira and Salvatore D’Addio)
  – Joint publish one academic paper and is drafting another one
• In 2013, Dr. Fran Fabra visited BUAA for 3 months and worked on “BeiDou applications on Typhoon detection applications”
  – Give a presentation on “Using GNSS signals for remote sensing purposes”
  – Contributed in experiment design for the typhoon detection in Guangzhou.
• In 2014, Dr. YIN Cong studied in ESTEC and University of Valencia for 7 months on “GNSS-R soil moisture measurement”
• From Jan. 2015, Dr. LI Weiqiang worked in Spain IEEC for the cooperation project GNSS-R
3. Future plan

China-ESA would like to explore the GNSS-R applications in new application area for the efficient service, working better for the green economy development.

- 4th joint workshop in 2015, in Beijing
- Potential cooperation on the GNSS-R applications satellite constellation and data processing system
- Talents exchanging
Thanks for your attention!