

Technical Arrangement of Moon Mapping Project

1. Background

On October 24, 2007, Chang'e-1 was successfully launched from the Xichang Satellite Launch Center. Till July 1, 2008, Chang'e-1 has accomplished lunar global data acquisition. Chang'e-1 carries 8 instruments (CCD stereo camera, laser altimeter, Gamma Spectrometers, X-Ray Spectrometers, Low-Energy Ion Detector, High-Energy Solar Particle Detector, Microwave Detector, Interferometer Spectrometer Imager), which have obtained about 1370GB of data. These data have been published online at present, available for international planet researchers.

Italy is an important partner of China in Europe on science and technology cooperation. Minister Wan Gang accompanied the Vice Chairman Xi Jinping to Italy from June 1-4, 2011. During the visit, the Minister Wan signed the Memorandum of Understanding on Cooperation in Major Research Projects between MOST and the Italian Ministry of Education, University and Research (MIUR) and the Framework Agreement on Regional Innovation between MOST and the President of the Tuscany region. Both documents provided frameworks for enhancing cooperation in major science projects, construction of joint labs, connection of hi-tech zones and innovation synergy of industry, university and research institute.

One of the results of the above visit was the finalization of the Sino-Italian cooperation program of undergraduates mapping the moon together was drafted. Using the data of China's lunar exploration, leading by the well-known lunar scientist Academician Ouyang Ziyuan, undergraduates from the two countries work together to mapping the moon in three dimension, and share the cooperation achievements globally.

2. Project leaders and Partners

The project is supervised by the Ministry of Science and Technology, P.R.China (MOST), the National Remote Sensing Center of China and the Italian Ministry of Education, University and Research (MIUR).

The Italian Space Agency (ASI) and the Center of Space Exploration, Ministry of Education of China are the project leaders and coordinators for the organization and implementation of the project.

Chinese universities and research participating in this project include China University of Geosciences (Beijing), Peking University, Tsinghua University, Nanjing University, East China Normal University, China University of Geosciences (Wuhan), Chongqing University.

Italian universities and research institute participating in this project include University of Chieti, University of Parma, Polytechnic University of Milan, University of Cagliari, University of Pavia, INAF-IAPS, etc.

Other Research and support institutions of both sides include National Astronomical Observatories, CAS (NAOC), Italian National Institute of Astronomy (INAF), etc.

3. Content of Cooperation

Using the data of Chang'e-1 and Chang'e-2 provided by China, including the data of the eight payload, Chinese and Italian college students will carry out joint researches on the generating of the lunar geological structure map, elements distribution map, three-dimensional digital topographic map, microwave brightness temperature map and solar wind ion map. Also they will complete a three-dimensional digital visualization system of the Moon, and publish the results to the world. During the co-operation study period, students will join the exchange visits and training activities, attend seminars lectured by famous Italian and Chinese scientist for the lunar exploration, visit China's Lunar Exploration Ground Application System and observe the lunar exploration results, and visit the Italian space research institutes.

The main anticipated achievement of the cooperation is the joint publication of a textbook on lunar remote sensing image processing. The textbook will be published in English and will be not only used in the relevant courses in both of Chinese and Italian universities, but also employed as a guide book in museums.

4. Timing and Intellectual property right

The program implementation period is 3 years (Jan. 2015 – Dec. 2017). *Both of the Italian and Chinese teams co-own the intellectual property right of the results of the joint researches.*

Both the research content and schedule are open for proper adjustment in terms of the matching between the Italian and Chinese sides.

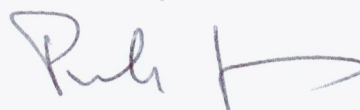
The Center of Space Exploration

The Italian Space Agency

Ministry of Education of China

Coordinator:

Coordinator:



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Place: Rome, Italy