

Report on the Second International Forum on Space Science: Frontiers and Opportunities of Space Science

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The 2nd Strategic Forum on Frontiers and Opportunities of Space Science” took place on September 4 and 5 at the Swan Lakeview Hotel in Huairou, Beijing.

The previous forum was devoted to governance issues of a space science program in China in comparison with international experiences as well as the challenges for the development of the selected projects. The rationale behind the topic of the 2nd forum is the identification of frontiers and opportunities in space science for the coming decade in light of what is being done by the different space agencies around the world. The space science program of China is currently in the phase of identifying new projects to be carried out and it is essential to consider the global perspective, finding opportunities for breakthrough as well as international cooperation in order to achieve science excellence.

At the forum, hosted by NSSC and ISSI-Beijing, 20 international experts met together with 15 Chinese scientists in order to discuss new developments and identify the key questions that need to be addressed next. During the first session of the first day, C. Hartman presented the role of the National Academy of Sciences in the US space science planning, followed by presentations of the current space science program and future plans of ESA, by G. Hasinger; JAXA, by M. Fujimoto; Russia, by L. Zelenyi, and China, by C. Wang.

The discussion about Frontiers and Challenges started in the second session of the first day with presentations in specific scientific domains. Space Astronomy and Fundamental Physics was the subject of the first discussion with a keynote talk by Ch. Kouvelotou and a discussion including short presentations by Chinese scientists. The second topic was Solar and Space Physics, including two

separate keynote talks by S. Solanki and R. Nakamura for the respective fields. Additional short presentations by Chinese scientists allowed to complete the current perspectives. Finally, the field of Exoplanets was considered with a keynote talk by W. Benz, an additional presentation by I. Ribas, and a lively discussion, including a short presentation by P. Worden.

The second day started with Planetary Science. The keynote talk was given by T. Spohn and there were also short presentations by Chinese scientists on their planned projects. Thematic discussions were closed with the domain of Earth Space Sciences which was dealt with a keynote talk by J. Dozier and short presentations by Y. Kerr and J. Shi. In the second part of the second day, the discussions in each of the five domains were summarized by the corresponding keynote speakers and reporters including the contributions of many of the participants. The summary session was used to identify the 5-6 key scientific questions that need to be addressed in the coming years/decades globally. They are the reference for potential new missions as well as international cooperation endeavors. Before closing the meeting, two additional presentations were made on the process of program panning and mission selections in ESA, by F. Favata, and Russia, by A. Petrukovich, given perspective on the way ahead for the scientific community to be able to develop the tools they need to address the identified most compelling questions.

During the forum it was felt by all participants that the experience was very fruitful, with open discussions and potential for cooperation at all levels. It was also thought that further discussions, in this kind of forum context, will be welcome. A final report about the conclusions of the meeting, including the identified key questions (the 5-6 bullets per domain), with links to all the presentations will be available soon at this ISSI Beijing webpage.

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