

HUMAN SPACE ENDEAVOURS SYMPOSIUM (B3)  
Space Station Utilization (3)

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## SCIENTIFIC AND APPLIED EXPERIMENTS ONBOARD THE ISS RUSSIAN SEGMENT

**Abstract**

The paper specifies the role and place of the ISS as a unique scientific laboratory and successful project of the international community. The Russian segment of the ISS is presented as a facility for research, development and utilization of outer space. Plans for further development and upgrading of the RS ISS are introduced as well. With launch of new modules (Multipurpose Laboratory Module - MLM and Science Power Platform - SPP) and a new data transmission satellite system, capabilities of the Russian segment will grow significantly that will greatly accelerate the pace of scientific and applied research and permit to spend more than 200 space experiments by 2015. In future the Russian Segment of the ISS will be equipped with a free-flying but periodically docked with the ISS spacecraft "OKA-T" that will greatly expand capabilities to conduct various scientific and technological activities. In addition, the results and plans of the activities onboard the RS ISS for research, exploration and utilization of space are presented including basic research (life sciences, physics, and Space and Earth research), testing onboard the RS key technologies for further space exploration, as well as utilization of space experiments' results on Earth. It is worth to mention very important positive role of broad international cooperation with respect to these activities. In conclusion it is noted that the International Space Station being a space laboratory for basic and applied research, has become a symbol of human intellectual capacities. In the course of ISS life researchers have gained promising results and one can expect that in future they will find even more application both for terrestrial needs and for future space exploration. There are promising opportunities to improve the efficiency of research programs and ISS utilization on basis of mutually beneficial cooperation of scientists all over the world.