Session Summary Report

1. **Session Name : Session 6-----Space mission**
2. **Chairs : Zhang Zhongping (SHAO) & Ludwig Grunwaldt (GFZ)**

- **3 presentations**
- **Topics:**

1) **Russian free-space laser communication experiment "SLS" (Grechukhin I.A.)**
2) **Laser Ranging to Nano-Satellites in LEO Orbits: Plans, Issues, Simulations (Georg Kirchner)**
3) **SpinSat Mission Overview (Andrew Nicholas)**

- **Current situation and Future technology developments**

1) **Experiment of space laser communication and LaserComm sessions between ISS and ground SLR station were successfully carried out in Russia with few arc seconds precision of laser beam targeting, high volume of information data transfer, performance capabilities of system up to 80%. The technology of intersatellite LaserComm systems were also tested out.**
   Free-space laser communication experiment is a part of long-term science-applied research and experimental program on Russian ISS section and this technology will be further developed and pushed in Russia.

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2) Introductions of future plans of nano-satellite missions with circular LEO orbits and implementation of SLR measurements are reported.

   Placing several cube corner on each side of small LEO satellites, the standard SLR and independent attitude determination will be applicable.

3) The Naval Research Laboratory and Digital Solid State Propulsion (DSSP) proposed a small mission named "SpinSat flight" on ISS in order to demonstrate and characterize the on-orbit performance of electrically controlled solid propellant technology in space. Presentations of mission overview and system design were given. The technology of the small satellite community that will allow small satellites to perform maneuvers was enabled for the better applications of small satellites.