SPACE DEBRIS SYMPOSIUM (A6)
Measurements (1)

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# INTERNATIONAL COLLABORATION AS A PRIMARY WAY FOR THE ISON NETWORK DEVELOPMENT

**Abstract**

International Scientific Optical Network (ISON) represents one of largest systems specializing in observation of space objects. ISON project is continuously developing and is joining now the 27 observation facilities in 12 countries with 42 telescopes of different class (aperture from 19 cm to 2.6 m). 3.5 millions of measurements in 450 thousands of tracks are collected for about 3000 objects in 2011. 168 new high-orbits objects are discovered and orbits for 1704 GEO region objects are maintained in the ISON database. High performance of the ISON network is achieved largely thanks to international collaboration. Joint observation campaigns with 1 m telescope of Zimmerwald observatory are carried out since 2004. Russian-Italian project FIRST is realized in 2009. It is planned to move 22 cm survey ORI-22 telescope from Collepardo to Castelgrande in 2012, and it will be added second, 35 cm RC-350 telescope for follow up observations. First GEO surveys are carried out with 50 cm telescope Fabra ROA Montsec project with FOV of 4.4 degree near Barselona in 2011. ISON provided the APEX software for CCD frame processing to Spanish team and prepares survey schedules. It is planned to install 25 cm ORI-25 telescope with FOV of 3.5 degree near Cosala in Mexico under collaboration of ISON with Universidad Autonoma de Sinaloa. Two telescopes (survey 19.2 cm VT-78e telescope with FOV of 7.1 degree and 40 cm ORI-40 telescope with FOV 2.3 degree for faint object observations) are produced for future observatory in Tavan Talgoy in Mongolia. The modernization of two largest telescopes (1 m AZT-10 and 2.6 m of ZTA) of Byurakan Astrophysical Observatory in Armenia is on the way. It is expected to obtain FOV of 2.6 degree for 1 m telescope and 1 degree for 2.6 m telescope. The negotiations with IATE and CONAE are in progress about installation of two ISON telescope at Macon in Argentina in 2012. First 19.2 cm VT-78e telescope with FOV of 7.1 degree will be dedicated for GEO surveys and second 25 cm ORI-25 telescope – for follow up observations. These new telescopes will provide the increasing regularity of surveys along whole GEO, improve the searching and tracking of faint fragments, significantly increasing observation time for extra fine fragments, and removing the decreasing of volume of data during summer time. Description of instruments, modes of operation, existing and expected output will be described in the paper.