

**PDC2015**  
**Frascati, Roma, Italy**

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**IAA-PDC-15-P-35**

**CURRENT STATE AND FUTURE PROSPECTS FOR  
ISON ASTEROID PROGRAM**

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**Keywords:** *ISON, NEO, survey, photometry*

**ABSTRACT**

ASPIN - ISON asteroid program started in September 2003 at Andrushivka astronomical observatory (A50, Andrushivka, Ukraine). For these purposes was used Zeiss-600 telescope with small CCD camera. In 2009, telescope was upgraded by new full-format CCD camera and lens corrector, which increased FOV to 72'x72'. During first 7 years, observatory discovered more than 350 asteroids, include 2 NEAs. In 2014, at observatory installed new, wide-field telescope ORI-50M (0.5-m f/2.3).

Next ISON observatory, which started own survey, was ISON-NM (H15, Mayhill, NM, USA). Survey work started in July 2010 and continues to this day. First telescope of this observatory was Centurion-18, 0.45-m f/2.8 with full-frame CCD camera. In September 2013 with telescope replaced by our new telescope Santel-400AN (0.4-m f/3) with 105'x105' FOV. Both telescopes was controlling remotely from Moscow. At ISON-NM was discovered more than 1,500 asteroids, include 4 NEO and 2 comets – well-known C/2010 X1 (Elenin) and near-Earth comet - P/2011 NO1 (Elenin). Obtained more than 500,000 observations of small bodies. Except survey work, ISON-NM carry out photometric observations of NEAs, obtained dozens lightcurves, determined rotational period for more than 20 NEAs, include extremely close and fast rotators, such a 2012 KP24, 2012 KT42, 2012 LZ1 and Duende (2012 DA14).

Since April 2012, another observatory joined to ASPIN – ISON-Kislovodsk (D00, near Kislovodsk, North Caucasus, Russia). At observatory installed one (and first) of two Santel-400AN telescopes with full-frame CCD camera, provided 105'x105' FOV. For 2 years observatory discovered about 100 new asteroids, include 1 NEA and famous comet C/2012 S1 (ISON). More than 80,000 measurements obtained. In 2013, ISON started using very wide-field telescope VT-73e (0.19-m f/1.5) with FOV 7°x4.5°, for chasing comets and bright NEAs. As first result – discovering new comet C/2013 V3 (Nevski).

Next step of ASPIN program was installation of our biggest wide-field telescope Santel-650A (0.65-m f/2) in September 2013 at ISON-Ussuriysk observatory (C15). With 50x50mm CCD chip, FOV of telescope is 132'x132'. Test survey observations started in December 2013.

In addition to survey telescopes, APSIN include a photometric and, in the near future – follow-up sub-networks. For photometric tasks, ISON used 0.4-2.6-m telescopes with small and moderate FOV. Already obtained hundreds lightcurves, defined rotational period for dozens NEAs, discovered 6 binary systems. Carried out observations in support of the study YORP effect.

In the future ISON will put into operation new survey telescopes – Santel-40/50 (0.4-m f/1.25, FOV 5.6°x4.2°). In binocular mode, this system will be able to observe up to 3000 sq. degrees per night, down to 20m. Moreover, we working to improving our processing pipeline to detection of faint and fast moving NEO.