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ACTIVITIES IN RUSSIA ON NEO: PROGRESS IN INSTRUMENTATION, STUDY OF CONSEQUENCES AND COORDINATION

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ABSTRACT

Russia continues to develop studies on NEO problem in various directions. We present here three issues of practical interest:

COORDINATION:

In the last few years new insights in the NEO problem in Russia have appeared. The NEO problem seems to be recognized as a problem which attention on the federal level should be paid for. That NEO detection problem was included into the Federal Space Program for the period of 2016-2025 (FSP is a major planning document of space activities in Russia). The main goal of this is to construct efficient

system for detection of dangerous bodies. The system is considered to be incorporated in the system of international cooperation on the problem.

Priority of the international cooperation is becoming more distinct .

Russian astronomical institutions begin to join international projects for detection and monitoring NEOs (IAWN Project).

Roscosmos plans to activate it's participation in the SMPAG Project.

Since 2016 Russian institutions also participate in the relevant PR Projects (e.g. Asteroid Day).

INSTRUMENTATION:

Ground based instruments both working and under construction as well as space born facilities are briefly described.

At the end of 2015 a new 1.6 m wide field (FOV 2.8 deg.) telescope AZT-33VM got the first light. The instrument is installed at the Mondy observatory of the Institute of Solar-Terrestrial Physics of the Siberian Branch of Russian Academy of Sciences. It is dedicated for search of NEOs in a long distance mode. Small aperture ground based instruments devoted to detection and monitoring NEOs in the near Earth space are working on NEO in networks ISON and MASTER. A number of new robotic small aperture telescopes is under construction.

The Moscow University satellite "Lomonosov" equipped with a camera for detecting bodies in the near space got first results. These are briefly presented.

Projects of other space instruments (NEBOSVOD-2 and SODA) are under design.

The status of the instruments is presented.

COLLISION CONSEQUENCES:

Special attention is paid to study of the collision consequences and mitigation methods. The first results of construction of the data bank of collision consequences were obtained at the Institute of Dynamics of Geospheres (RAS, Moscow) and in other research centers.