

RESULTS AND PERSPECTIVES OF THE MASTER ROBOTIC TELESCOPES NETWORK

D. DENISENKO

SAI MSU, Russia

E-mail d.v.denisenko@gmail.com

Abstract. The MASTER Net of Mobile Astronomical Telescopes-Robots has been developed since 2002 and started its fully autonomous operation in March, 2011. At the moment it consists of five identical binocular telescopes with a total of ten 0.4-m tubes corresponding to the effective aperture of 1.25 m. They are situated in five locations spread over six time zones, from 127E longitude in Russian Far East to 37E in the Central European part of Russia (see <http://observ.pereplet.ru> for more details). Originally designed for the fast response to Gamma-Ray Burst alerts from the spacecrafts, the telescopes of MASTER Net are discovering a lot of new objects in the survey mode, including a number of astrophysically important ones. In the first year of full time operation MASTER robotic telescopes have discovered more than 120 optical transients, including over 50 supernovae candidates, about 30 new cataclysmic variables, classical Nova, several fast transients and objects of unknown nature. In the same time MASTER telescopes keep on providing about 50 per cent of the first pointings to the GRB alerts in the world, including the observations from space. The plans are to install two to four additional MASTER systems abroad (on the Canary Islands, in Argentina, South Africa and Antarctica) to cover the western hemisphere and the southern sky. Using the identical instruments will allow the unique continuous monitoring of the sky covering about 5000 sq. deg. per night to the 20th limiting magnitude.

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