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Abstract Book

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5898:NAO and SHAO participation in the near-Earth space observations

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Joint observations of space debris (SD) are conducted in NAO and SHAO. The main task of observations is precise estimation of the hazard collisions of SD with operating satellites. Also, observations of the potentially hazardous asteroids (PHA) on the distance of less than 0.05 AU, according to the NEODyS program, are conducted in NAO. The main task is to obtain the large number of precise observations of the PHAs during their closest approach to the Earth. The observations are carried out with a combined CCD observation method (developed by NAO in 2000), using the time delay integration mode of CCD-camera. All used telescopes are equipped with U9000 Apogee CCD cameras, provided by SHAO. For observations of the SD next telescopes are used: AFU-75 (D = 267mm F = 750mm) in the NAO; RDS-30 large-field of view telescope (D = 300mm F = 250mm) in SHAO. The calculation of orbital elements of the SD is carried out, using special software developed by NAO and SHAO. Observation results characteristics: AFU-75: mag=(8 – 15), distance=(500 – 36 000) km; speed=(0.01 – 2.0)°/sec; MSDαδ = ±(1 – 3)"; RDS-30: mag=(8 – 16), distance=(400 – 42 000) km; speed=(0.01 – 2.0)°/sec; MSDαδ = ± (2 –5)". For observations of the PHAs next telescopes are used in NAO: FRT (D = 300mm F = 1500mm) and Mobitel-KT50 (D = 500mm F = 3000mm). Observation statistic: FTR: 106 positions of 5 NEAs and 72 positions of 3 PHAs during 2008-2010; KT-50: 776 positions of 45 NEAs and 343 positions of 17 PHAs during 2010-2011. All observations of PHAs have been sent to the IAU Minor Planet Center. Observation results characteristics: FRT: mag=(12.8-15.9)m, distance = (0.01 - 0.5) AU; speed = (4.6 - 68.3) "/ min; MSDαδ = ± (0.23 - 0.43)"; KT-50: mag=(9.5-17.9)m, distance=(0.009 - 0.5) AU; speed = (0.2 - 138.4)"/min; MSDαδ = ± (0.08 - 0.38)".

7670:Near-Earth objects research in Pulkovo observatory

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