

Solar system bodies ‘Observations in the Past’ with the plate archive of the Main Astronomical Observatory of the Ukrainian National Academy of Sciences

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The improvement of the dynamical models of solar system bodies’ motions will be very useful for the future space astrometry mission *Gaia* for a fast identification of objects, to discriminate between the well-known objects and the new ones. ‘Observations in the Past’ with plate archives allow realising it.

The plate archive of the Main Astronomical Observatory of the National Academy of Sciences of Ukraine contains more than hundred thousand images of minor planets with magnitude up to 16.7 mag. About 10% of minor planets, which may be found on our archive plates, were firstly discovered after time when plates have been taken.

So we can re-discovery them by so called ‘observation in the past’ and obtain their positions. Now we intend to find, measure and define of orbital elements for: ‘rediscover’ asteroids, asteroids with out-of-truth orbits and Near Earth Objects.

Other solar system bodies for which we try to get those ‘observation in the past’ are external planets’ satellites. The objects choose criteria, methods of it search, identification and determination of position are discussed. The results of asteroids and external planets’ satellites search in MAO plate archive will be presented.