

**Lightcurves, colours and magnitude-phase dependences of NEAs 433 Eros and 1627 Ivar**

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Results of photometry of the S-type near Earth asteroids 433 Eros and 1627 Ivar which were obtained at the 0.7-m reflector of Institute of Astronomy of Kharkiv National University are presented. The observations were performed with CCD cameras in the BVRI standard photometric bands.

The lightcurves of the asteroid 433 Eros were obtained for four nights from 25 to 30 of August, 2009 at phase angle ranged between  $9.^\circ 0$  and  $9.^\circ 9$ . Amplitude of lightcurve in R-band equals to  $0.21^m$ . Variations of colours with asteroid rotation are no more than  $0.02^m$ .

The lightcurve of the asteroid 1627 Ivar were obtained during January-February, 1997, and on May, 2005, and November 9, 2008, and March 23, 2010. The lightcurve on 1997 apparition was obtained at the small phase angle ( $\alpha=0^\circ.57$ ) and has amplitude of  $0.27^m$ . The asteroid was at an intermediate orientation between pole-on and equatorial views. Lightcurve of the asteroid on November 2008 shows amplitude of  $1.00^m$  at the phase angle  $\alpha=10^\circ.25$  and equatorial aspect angle  $\zeta=87^\circ$ . The variation of colour V-R with asteroid rotation is no more than  $0.03^m$ .

For the observations on 1997 January, 2000 May, 2005 May and 2010 March the asteroid 1627 Ivar viewed at the very close aspect angles around of  $130^\circ$ . The linear part of a composite magnitude-phase dependence in V-band is characterized by the linear coefficient  $\beta_v=0.026\pm 0.003$  mag/deg and  $V_o(1,0)=12.94^m$ . The obtained phase coefficient agrees closely with  $\beta_v=0.024\pm 0.002$  mag/deg for near equatorial asteroid view on 1990, and a little differs from  $\beta_v=0.022\pm 0.001$  mag/deg for more north asteroid view on 1985. This can point that photometric characteristics of Ivar's surface are different on south and on north from its equator. Observations of Ivar on 1997 were carried out in the range of brightness opposition effect. Opposition surge of its brightness is characterized by the values of enhancement factor in the opposition peak of intensity and it's angular width, which are close to Eros's and to average ones for S-type main belt asteroids.