**OBSERVATION OF THE BINARY ASTEROID (65803) DIDYMOS AND ITS PHYSICAL-DYNAMIC CHARACTERISTICS BASED ON OPTICAL SURVEY RESULTS. G.I.Kokhirova, A.M.Buriev, S.N.Safarov Institute of Astrophysics of the National Academy of Sciences of Tajikistan, (E-mail: kokhirova2004@mail.ru, anvar10@mail.ru)**

**Introduction:** The article presents the results of optical grand-based observations of asteroid (65803) Didymos. The observations were carried out at the Hissar Astronomical Observatory (HisAO) IA NAST in August-September 2022. The main feature of asteroid (65803) Didymos (1996 GT), is a binary system, that is, a double asteroid (having a satellite moving in orbit) and has a size of less than one kilometer, belongs to the category of potentially dangerous asteroids and near-Earth objects of Apollo group.

**Observations:** Observations of asteroid (65803) Didymos were carried out on the AZT-8 telescope of the Hissar Astronomical Observatory (HisAO, MPC code 190) of the Institute of Astrophysics NAST over seven nights from August 29 to September 6, 2022. During the entire observation period, almost 800 images were taken with exposures ranging from 10 to 60 seconds.

**Results:** Result of astrometric processing of images the asteroid equatorial coordinates were determined, apparent trajectory was plotted, and the orbit was calculated. As a result of photometry of images, the visible brightness of the asteroid was measured in $BVRI$ filters, the absolute brightness $H=17.99^m\pm0.07$ ($V$-filter) was determined, no significant changes in brightness were detected. Color indices were evaluated, and it was suggested that the object may belong to X-type asteroids, which are characterized by a metallic composition. The average diameter estimate $0.75\pm0.05$ km at an albedo of 0.20 and corresponds to the available data on the size of asteroid, indicating the acceptable accuracy of brightness measurements.

**Conclusions:** A study of the dynamic and physical properties of asteroid (65803) Didymos, according to our observations, is in good agreement with other data and showed that the approach of the asteroid to the Earth in 2022 did not lead to significant changes in the data on its dynamic and physical properties. The found dynamic and physical properties of asteroids indicate the acceptable accuracy of the observations performed and the reliability of astrometric and photometric measurements.