NEAR-EARTH ASTEROID 2004MB6 AND IT FRAGMENTS. G. I. Kokhirova and P. B. Babadzhanov, Institute of Astrophysics of the Academy of Sciences of the Republic of Tajikistan, Bukhoro 22, 734042, Dushanbe, Tajikistan, <kokhirova2004@mail.ru>.

In 2009 August two bright fireballs of the -9.2 and -8.5 maximum absolute magnitudes and with initial masses of the meteoroids produced fireballs of 5.7 and 7.8 kg were captured by the Tajikistan fireball network. The fireballs luminosities were terminated at the heights 39.3 and 35.4 km. It turned out, that the coordinates of radiants and orbits of fireballs, which according to the PE criterion belong to the II fireball group having asteroidal origin [1], are nearly identical to each other. Three meteorite-dropping fireballs with the similar parameters earlier were recorded by the MORP camera network in Canada [2].

We undertook a search for the possible progenitor of this group among the near-Earth asteroids (NEAs). It was found that their orbits are very close to the orbit of the NEA 2004MB6, that is confirmed by their mutual values of the Southworth and Hawkins D-criterion [3] satisfying the condition $D \leq 0.25$. For verification of the revealed association the orbital evolution of the 2004MB6 and the meteoroid produced TN170809a was investigated using the Halphen-Goryachev method [4] for the time about 7 kyrs. As a result, both objects have well coincidence of the secular perturbations of orbital elements and the values of the modified D-criterion [5] of similarity of two orbits – of the asteroid and meteoroid does not exceed the value of 0.14 during the all time.

We suggested that a source of origin of the meteorite-dropping fireballs under consideration, probably, are fragments of the NEA 2004MB6 and these large bodies were constituent components of the asteroidal meteoroid stream for which the asteroid 2004MB6 is the progenitor.

References: [1] Ceplecha Z. and McCrosky R.E. J. (1976) *JGR, 81, 35,* 6257–6275. [2] Halliday I. et al. (1996) *Meteoritics & Planet. Sci., 31,* 185-217. [3] Southworth R.B. and Hawkins G.S. (1963) *Smith. Contrib. Astrophys.,7,*261–285. [4] Goryachev N.N. (1937) Halphen's Method for Calculation of Planetary Secular Perturbations and its Application to Ceres, Krasnoe Znamya, Tomsk, 115. [5] Asher D.J. et al. (1993) *MNRAS, 264,* 93-105.