# Dynamical and physical properties of presumed meteorite-dropping fireballs photographed by the Tajikistan fireball network

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The results of observations by the fireball network of the Institute of Astrophysics of the Academy of Sciences of the Republic of Tajikistan are presented. Observations were per-formed using the all-sky cameras with the Zeiss Distagon "fish-eye" objectives and the digital SLR cameras "Nikon D2X" and "Nikon D300" with the Nikkor "fish-eye" lenses. All-sky and digital cameras provided the multi-station photographic data on more than 400 fireballs. Astrometric and photometric reduction procedures the same as in the European Fireball Network (EN) are using [1-3]. Digital fireball images were measured using the Ascorecord measuring software "FISHSCAN" developed by Dr. J. Borovicka. Among processed data 25 presumed meteorite-producing fireballs were identified. Their geometrical conditions were good enough to compute reliable atmospheric trajectories, velocities, radiants, orbits and to plot light curves. The physical properties such as preatmospheric and terminal masses, densities of the substance of presumed meteorite-dropping meteoroids and their dynamical features are considered. Strong correlations have found between dynamical and physical features allow describing parameters of typical meteorite event.

[1] Borovicka J., Spurny P. and Keclikova J. (1995) Astron. & Astrophys. Suppl. Ser., 112, 173-178.
[2] Babadzhanov P. B. et al. (2009) Solar Syst. Res., 43, 367-377.
[3] Ceplecha Z. (1987) Bull. Astron. Inst. Czechosl., 38, 222-234.