OBSERVATIONS OF THE LEONIDS IN CENTRAL ASIA

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Observations in Central Asia in 1965-1966 by both photographic and radar methods allowed a determination of the radiants and orbits of Leonids (Babadzhanov and Getman 1970). Photographs showed that meteoroids undergo quasi-continuous fragmentation (QCF) in the Earth's atmosphere. Taking account of QCF, the density of the Leonid meteoroids were found to lie between 1 and $4gcm^{-3}$ the average being $2gcm^{-3}$ (Babadzhanov 1994), in agreement with the density range of between 0.2 and $6gcm^{-3}$ given by Maas *et al* (1990) for dust grains from comet P/1 Halley, with values below 0.6 being rare. Further, the icy grains have a density of about $1gcm^{-3}$ while silicate grains have a mean density 2.5 times higher.

The following observations are planned during the activity period of the Leonids in 1997-99 from the Institute of Astrophysics, Dushanbe, Tajikstan. Photographic observations using 8 cameras ($F = 750mmD : F = 1 : 3.5$) equiped with high quality Zeiss Distagon fish-eye objectives taking imultaneous exposiures ($5.6X10^{-4}s$) and also two-station TV observations.

Observations of the Leonids are also planned in the Scientific -Technical Centre, Ashgabad, Turkmenistan by the radar system *Cyclone* with 4 antennas directed to the North, East, South and West, and by wide- angle $1m$ telescope ($D : F = 1 : 1.8$) equipped with a TV-camera permitting recording of Leonid meteors down to a magnitude of 11.

References

Babadzhanov, P.B., (1990) Density of Meteoroids and their Mass Influx on Earth *Asteroids, Comets, Meteors 1993 eds Milani A. Di Martino M. Cellino A.* Kluwer Academic Publishers, 45-54

Babadzhanov, P.B. and Getman, T.I., (1970), *Bull. Inst. Ast. Tajik Acad. Sci.*,**53**, 3-6

Maas, D., Krueger, F.R. and Kissel, J. (1990), *Asteroids, Comets, Meteors III, eds Lagerkvist, C.-I., Rickman, H., Lindblad, B.A. and Lindgren, M.*, Uppsala Universitet Reprocentralen, 389-392

J. Andersen (ed.), Highlights of Astronomy, Volume 11B, 1022.