

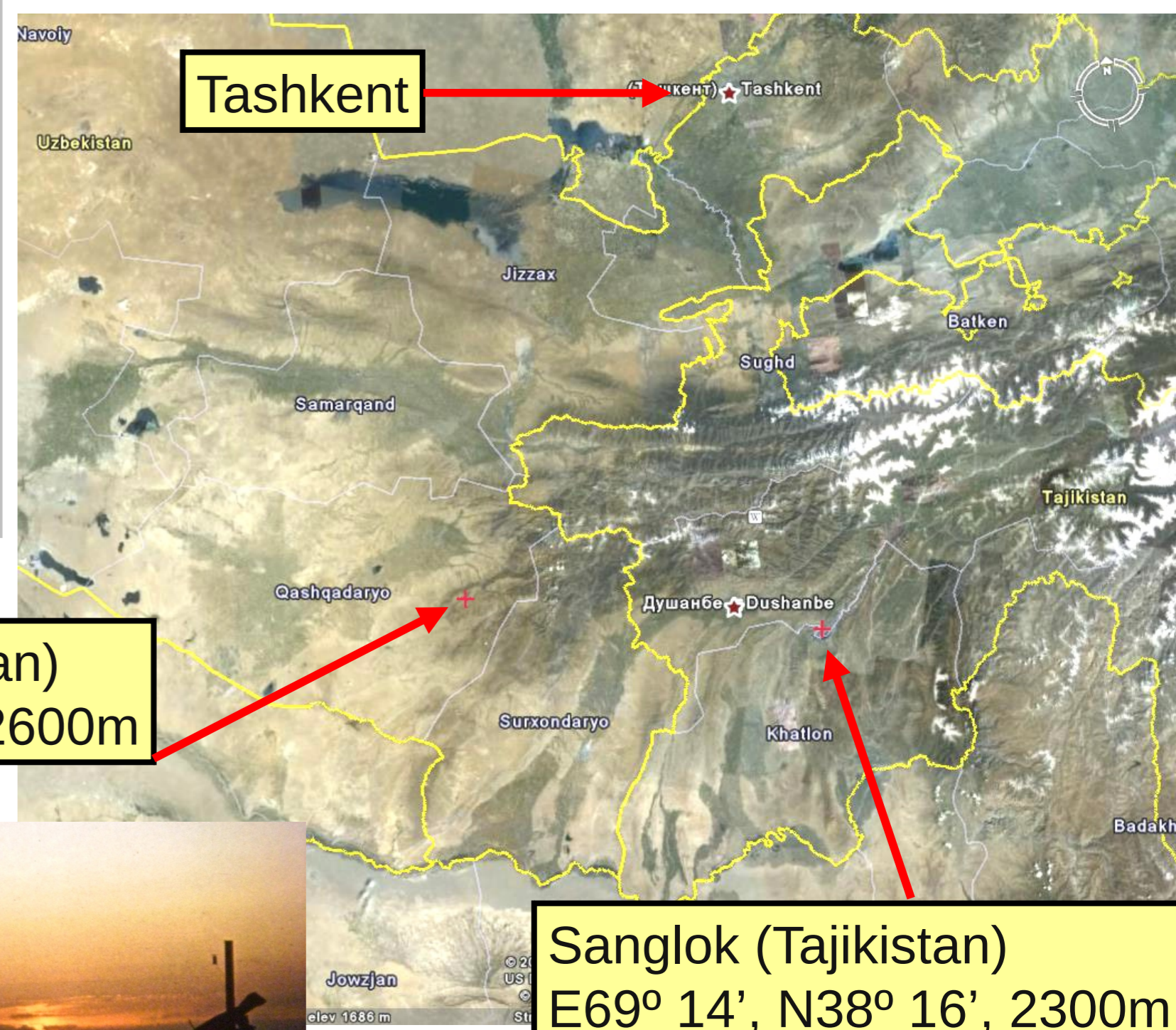
Peter Scheglov – pioneer of site testing in the Central Asia

A.Tokovinin & V. Kornilov



Promote astronomy in the Central Asia

P.Scheglov identified Central Asian sites with a large fraction of clear sky and calm atmosphere, in collaboration with meteorologists. He organized site-testing, helped the development of new observatories and education of astronomy in the region.



Chronology

Sep 4, 1932 – Petr (Peter) Vladimirovich Scheglov is born in Tashkent (Uzbekistan)

1954 – P.S. graduated from the Moscow University, chair of Astrophysics

1957 – PhD in astronomy (adviser – I.S.Shklovsky). P.S. starts working at the Sternberg Astronomical Institute (Moscow).

1966 – P.S. meets with Jurgen Stock at the IAU General Assembly in Prague, sparking his interest in site-testing

1967-1970 – development of the double-beam instrument (DBI) and first site-testing missions to Maidanak, Sanglok, Alma-Ata & Crimea.

1970 – Dr.Sci dissertation

1974 – Sternberg Institute decides to build its observatory at Maidanak.

1975 – Another mission, choice of the observatory location on the West summit of Maidanak.

1976-80 – development of the photoelectric seeing monitor (FEP)

1980s – seeing measurements at various sites. Evaluation of the ground-layer turbulence with micro-thermal sensors and Sodar.

1980 – P.S. publishes his book “Problems of optical astronomy”

1990 – Comprehensive study of turbulence at Maidanak

Dec 2, 2002 P.S. passed away



Calibration of the Photo-Electric Seeing Monitor.

Maidanak (Uzbekistan)
E66° 54', N38° 41', 2600m



Develop site-testing methods and instruments

In close collaboration with atmospheric scientists, P.Scheglov developed site-testing methods and instruments and used them at numerous observatories



Calibration of optical and micro-thermal equipment in Tsimliansk (May 1982). Left: A.M.Obukhov, V.N.Karpinsky, P.V.Scheglov, A.E.Guryanov. Right: Guryanov and Scheglov prepare experiments on the horizontal path.



Towards high angular resolution in astronomy

P.S. worked on increasing angular resolution of ground-based telescopes by selecting the best sites, reducing man-made seeing, perfecting telescope technology, developing detectors and high-resolution techniques. He promoted these ideas in the astronomical community.



Prepare next generation of astronomers

P.Scheglov taught at the Moscow University. He was the PhD adviser of several graduate students working on site testing: S.Novikov, A.Guryanov, V.Kornilov, A.Tokovinin, A.Kutyrev, Yu.Khan. He has influenced the whole generation of astronomers in the former republics of the Soviet Union.



P. Scheglov and S. Novikov with the double-beam instrument (DBI), 1960s



At the IAU Colloquium 67 on astronomical instruments (Sep. 1981, SAO): V.N.Dudinov, P.V.Scheglov, V.S.Tsvetkova, V.F.Esipov

P.V. Scheglov (Shcheglov, Shcheglov) published about 50 papers on site testing, some are listed below.

- ✓ Щеглов П.В. *Проблемы оптической астрономии (Problems of optical astronomy)*. Nauka, 1980
- ✓ Novikov, S.B. & Shcheglov, P.V. 1968, *Preliminary results of double-beam site testing at Mt. Sanglok*. Astr. Tsirk., No. 491, 3
- ✓ Efremov, Iu.N., Novikov, S.B., & Shcheglov, P.V. *Prospects for development of ground-based optical astronomy*. 1975. Sov. Phys. Uspekhi, 18, 151
- ✓ Shcheglov, P.V. *On the use of acoustic methods for studying temperature and wind fields near astronomical instruments*. 1976, Astr. Tsirk. No. 900, 3
- ✓ Beslik, A.I. et al. *Simultaneous seeing measurements near Mt. Maitanak with the double-beam telescope and a photoelectric device*. 1977, Astr. Tsirk., No. 955, 3
- ✓ Scheglov P.V. *Astroclimatic studies in the Soviet part of the Central Asia*. Proc. Conf. on Astroclimate, Abastumani, 23-26 Nov. 1981.
- ✓ Guryanov et al. *A complex study of optically active turbulence above two mountain observatories*. 1988, Astron. Zh., 65, 637
- ✓ Gur'yanov et al. *The contribution of the lower atmospheric layers to the seeing at some mountain observatories*. 1992, A&A, 262, 37
- ✓ Shcheglov, P.V. *On some features of atmospheric circulation favorable to good seeing*. 1998, Astron. Tsirk., No. 1557.