

To centenary of Professor Evgeniya Vladimirovna Pyaskovskaya-Fesenkova



Most of current books by Russian scientists devoted to the problems in atmospheric sounding with passive methods refer to the monograph *Study of Light Scattering in the Earth's Atmosphere* (Publishing House of the Academy of Sciences of the USSR, Moscow, 1957) written by E.V. Pyaskovskaya-Fesenkova. This is not a mere occasion. This book has stood the long test of time. It describes the grounds of photometric analysis of the scattered light of the day sky and formulates the principles of interpretation of the observed data.

Evgeniya Vladimirovna Pyaskovskaya was born on August 23, 1899, in Odessa in a poor noble family. Upon finishing a gymnasium, she entered the Physico-Mathematical Department of the Moscow State University. Simultaneously she was employed as a calculator in an astrophysical observatory. It was just this place where she met her future husband and Academician Vasilii Grigor'evich Fesenkov. Already then he was an internationally known scientist, the founder of astrophysical studies in the USSR. They married in 1926. The marriage was very happy: for all 47 years of their life together they were joined not only by faithful love, but also by common scientific interests.

In 1941, after leaving Moscow for Alma-Ata, E.V. Pyaskovskaya-Fesenkova headed the Lab for Atmospheric Optics at the Institute of Physics and Astronomy and then at the Astrophysical Institute of the Academy of Sciences of the KazSSR. This institute is now named after V.G. Fesenkov. This was the time her talent as a scientific researcher and manager has opened up. Despite severe years during the World War II and after it, specialists of the institute produced unique equipment, carried out systematic measurements of the spectral transmittance of the atmosphere, brightness and polarization of light from the day sky in both stationary and field conditions. Much talented specialists, regular seminars with participation of the academician, wide presentation of obtained results at various scientific forums made the Astrophysical Institute well-known both in the USSR and abroad as a center for atmospheric optics. So the scientific school founded by E.V. Pyaskovskaya-Fesenkova functions until now. Scientists of the lab have defended four doctor's and 15 candidate's theses.

The scientific legacy of E.V. Pyaskovskaya-Fesenkova includes, besides of the above-mentioned monograph, about hundred papers in different scientific journals. She has considered in detail the possibility of using the theory of single scattering of light for interpreting observations of sky brightness and polarization at high transmittance of the atmosphere. Besides, she has developed new methods for determination of transmittance from brightness, including the nephelometric method with the use of scattering at 60° angle. She also stated the problem of stability of optical properties of the atmosphere during measurement of the transmittance with the Bouguer method which takes long time. It was she who proposed the original ways for experimental assessment of the influence of multiple scattering and reflection of light from the underlying surface on the sky brightness. She studied the influence of different factors on the polarization characteristics of radiation scattered in the atmosphere.

E.V. Pyaskovskaya-Fesenkova died on January 2, 1993. For many years she preserved lucid mind. Being 85 years old, she has read the author's abstract of my thesis and commented it in the following way: "I am surprised that some ideas of my youth are developed to such a high level." She was absolutely right: good scientific ideas often outlive their author.

Doctor of Physics and Mathematics V.E. Pavlov

Institute of Water and Ecological Problems,
Siberian Branch of the Russian Academy of Sciences, Barnaul