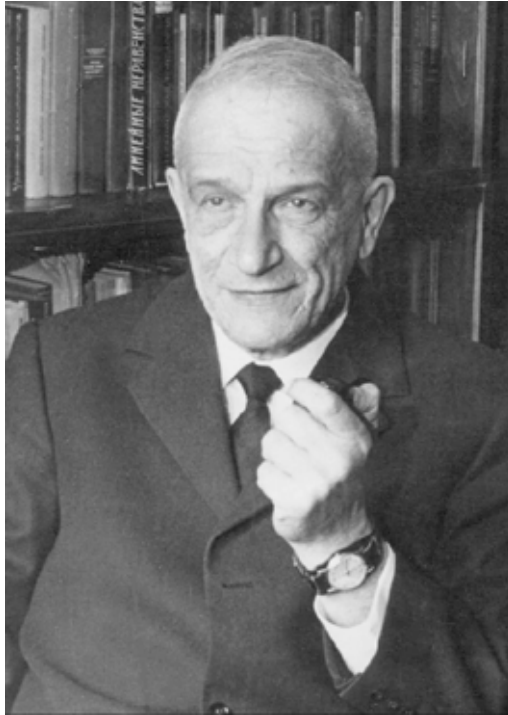


The articles in this
and the following issues
are dedicated to the memory of
A. Ya. Povzner



Aleksandr Yakovlevich Povzner

This issue, as well as the next one, is dedicated to the memory of Aleksandr Yakovlevich Povzner, an outstanding mathematician and a remarkable personality. He died on April 22, 2008, in a suburb of Washington, DC, USA, aged 92. Almost the whole of his life was connected with Ukraine and the USSR, to which Ukraine belonged up to 1991.

A. Ya. Povzner was born on June 27, 1915, in Poltava, Ukraine. He studied at the Kharkiv University, and then was a professor there for a long time. In 1960 he moved to Moscow, but that did not sever his connections with Ukraine where his friends and followers remained.

He was a very broad mathematician — his interests spread from his first works in algebra inspired by his teacher N. G. Chebotaryov to the ones devoted to applications of computers to applied problems (in Moscow he worked on applied subjects in two institutes of the Academy of Sciences of the USSR).

A larger part of his works deals with differential equations. He studied some classes of partial differential equations describing nonstationary processes, diffraction problems, the problem of the existence and uniqueness of a solution of the Boltzmann equation, asymptotic methods.

However it was his work on the Sturm–Liouville and Schrödinger equations that was the best known and most influential. In 1944, A. Ya. Povzner investigated the generalized

shift operator generated by the Sturm–Liouville equation, and was the first to prove an analog of Bochner’s theorem about positive-definite functions for the case where, instead of the exponentials, one deals with eigenfunctions of such an equation. In about the same period, he defined the transmutation operators for the Sturm–Liouville equation using Riemann’s formula for an appropriate hyperbolic equation. They play a fundamental part in the study of inverse spectral problem for this equation. In 1953, his seminal paper on eigenfunction expansions for the Schrödinger operator was published. It contained, in particular, a proof of the integrality of spectral projections for such an operator. This paper was a starting point for proving a possibility to differentiate a spectral projection measure with respect to an appropriate scalar measure, both for differential operators and general selfadjoint operators. It provided a stimulus for creating a theory of expansions in generalized eigenvectors of such operators. In 1953–55, A. Ya. Povzner obtained fundamental results in the scattering problem for the Schrödinger operator with rapidly decaying potential, which were developed later by a number of mathematicians.

A. Ya. Povzner was an excellent lecturer. His lectures and seminars in the Kharkiv University were very popular and attracted many young listeners. He had a sharp and precise mind, at the same time being always well-wishing. He was a patriot in the best sense of the word — he understood very well that he lived in the USSR, a country with a totalitarian regime. But that was his motherland, he was attached to it very strongly, and it was not easy for him to leave. He left for the USA, where his daughter lived, when he was already very old, as his wife died after a long grave illness. He worked in mathematics up to the last days of his life.

He will be always remembered by those who knew him.

Editorial Board