

100th Anniversary of the Birthday of Alexander E. Chudakov

DOI: 10.1134/S1063776122040173



Photo of Alexander E. Chudakov from the archive of the Laboratory of High Energy Leptons Laboratory, courtesy of A.S. Lidvansky.

June 16, 2021 was the 100th anniversary of Alexander E. Chudakov, an experimental physicist nearly

each of whose works was pioneering. He was a trailblazer in various scientific disciplines such as the physics of cosmic rays, gamma-ray astronomy, neutrino astronomy, geophysics, and underground physics. Detectors installed by him onboard the Sputnik 2 and Sputnik 3 satellites were the first detectors of elementary particles ever launched into space. These measurements, made in collaboration with S.N. Vernov, resulted in the discovery of Earth's radiation belts, which can be considered the last of the great geographical discoveries. Chudakov constructed the world-first Cherenkov gamma-ray telescope and the first large-volume Cherenkov detector. He described and calculated the reduction in the total ionization of electron–positron pairs due to interference (mutual screening) of the wave functions (the Chudakov effect). Under his guidance, the first large-scale facilities were constructed at the Baksan Neutrino Observatory, which has now become a major research center with a wide spectrum of research directions. Many, even if not all, of the authors of this issue of JETP were Chudakov's students, but all universally consider it an honor to contribute to this memorial issue, expressing their deep respect for Chudakov's memory. The Editorial Board, sharing their feelings, is happy to welcome their contributions.

This issue of JETP contains articles from the research fields to which Chudakov made a contribution.