

Dear colleagues,

October 30, 2022 marks the 95th anniversary of the birth of the outstanding theoretical physicist Emmanuel I. Rashba. Professor Rashba is known for his contributions to different areas of condensed matter physics and spintronics, especially the Rashba effect in spin physics, and also for the prediction of electric dipole spin resonance (EDSR), that was widely investigated and became a regular tool for operating electron spins in nanostructures, phase transitions in spin-orbit coupled systems driven by change of the Fermi surface topology, Giant oscillator strength of impurity excitons, and coexistence of free and self-trapped excitons. The principal subject of spintronics is all-electric operation of electron spins, and EDSR was the first phenomenon predicted and experimentally observed in this field.

Professor E.I. Rashba began his scientific activity in Ukraine first at the Institute of Physics of the Academy of Sciences of the Ukraine where he initially worked on the theory of transistors. It should be noted that it was a fortunate event for our V. Lashkaryov Institute of Semiconductor Physics that E.I. Rashba worked here since the organization of this institute in 1960 for 7 years as the head of the Department for Theory of Semiconductor Devices. For many years, E.I. Rashba is maintaining a close scientific relationship with Ukrainian colleagues.

The editors of the “Semiconductor Physics, Quantum Electronics & Optoelectronics” dedicate the 3rd issue of the journal to the 95th anniversary of the birth of Professor Emmanuel I. Rashba.

You can find some articles by Rashba’s students and Ukrainian colleagues working on the problems started by E.I. Rashba in this issue of SPQEO.

The SPQEO Editorial Board