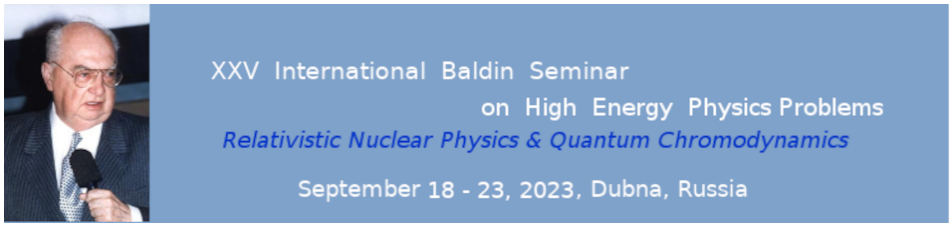


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# Neutron stars and black holes as laboratories of fundamental physics

*Monday, 18 September 2023 16:00 (40 minutes)*

In 1963 first quasars were discovered which are supermassive black holes. The Kerr solution is a key component for models of active galactic nuclei (AGNs). In 1968 first pulsars were discovered and their model as rotating neutron stars (NSs) had been proposed. NSs were observed in different spectral band of electromagnetic radiation. In addition, a neutrino signal had been found for SN1987A. Therefore, multi-messenger astronomy demonstrated its efficiency for decades even before observations of the first gravitational radiation sources. Among other gravitational wave events LIGO—Virgo collaborations detected binary neutron star merging in the GW170817 event which was observed also transient in different bands of electromagnetic radiation. We discuss opportunities to test fundamental gravity predictions with observations of black holes and neutron stars.

**Primary author:** ZAKHAROV, Alexander (ITEP)

**Presenter:** ZAKHAROV, Alexander (ITEP)

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