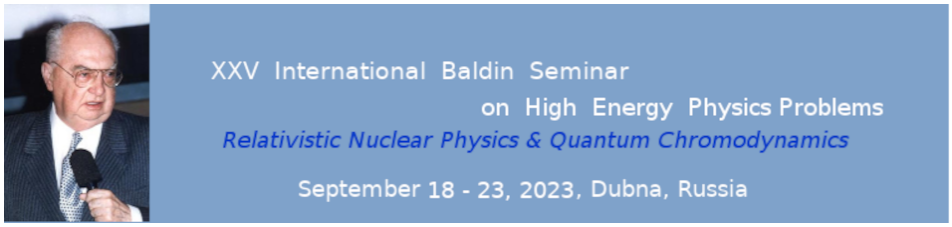

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Modern Microelectronics at NICA. To be or not to be?

Friday, 22 September 2023 09:00 (20 minutes)

Already for some decades the design and production within Russia of relevant products related to the microelectronics industry critically depends on foreign technologies. In the current scenario it is always more evident the necessity of finding a way to get access to sanctions-free leading-edge electronic components from technological processes below 180 nm to meet the demand specially in high energy physics experiments like those being developed for the NICA facility. This presentation shows a concrete way to achieve this goal based on the ongoing effort for the creation of a research Consortium integrated by JINR, SPbU and several Chinese institutions coordinated by the CCNU for the joint development and production of state-of-the-art Monolithic Active Pixel Sensors (MAPS) for fundamental and applied science experiments, including ASICs-based front-end electronics from the GBTx family to make these technologies freely accessible to China and Russia.
These chips are intended to be the central piece for the joint development and construction of setups for fundamental and applied science at NICA i.e. the MPD Inner Tracking System, and a prototype of a clinical tomograph for the proton Computer Tomography (pCT) for the ARIADNA project.

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