

## Welcome to NICA days 2019 and IVth MPD Collaboration Meeting in Warsaw



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### Setup of the heat transfer inside the TOF-MPD detector

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Time of Flight (TOF) detector is a part of Multi Purpose Detector (MPD), crucial element of the NICA complex. The detector generates signal that carries information needed for the particle identification. Complex physical process of forming output signal requires maintaining the amplifier circuits at specific temperature. Overheating may induce major signal distortions and - in worst case - damage of the detector. To avoid that scenario, many thermal simulations were performed.

The aim of this work was to build instrument for multipoint temperature measurement inside the TOF module and collect the essential data to verify the simulations. To assemble this setup, Pt100 type RTD sensors and LUMEL SM1 modules were used. Next, in order to multiply input channels, custom multiplexer circuit were built. Afterward, specialised LabVIEW software was created for circuit control and data acquisition.

The presentation presents the design concepts, problems encountered and obtained results during the described work.

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