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Expression of Interest for participation in SPD experiment at NICA

Institute of Radioelectronics and Multimedia Technology, Warsaw University of Technology, is interested in participating in the Spin Physics Detector (SPD) experiment that is planned at the NICA collider. Our groups would like to contribute to development of detector systems, in particular the barrel electromagnetic calorimeter. We would like to participate in characterization of photosensors and development of readout electronics, mostly in the area of front-ends and digitizers based on full waveform acquisition. Moreover, we would also like to contribute to R&D related to signal processing techniques required for data reduction, which include estimation of time and charge from the recorded waveform, deconvolution of pile-up and data compression.

Our group has significant experience in the field of detectors end electronics for high energy physics and astrophysics experiment. We are a long-term member of the COMPASS experiment at CERN, where we did several detector projects related to straw chambers, scintillating fiber detector, electromagnetic calorimeter (ECAL0) and CEDAR detectors. Furthermore, we were involved in building near detector for the T2K experiment in Japan and are heavily involved in activities related to next generation neutrino experiment T2HK (Tokai-to-HyperKamiokande) – both in the field of photosensors and front-end electronics.

Yours sincerely

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