Contribution ID: **436** Type: **Poster report**

New calorimetry based on silicon pixel detectors

Tuesday 13 October 2020 18:35 (20 minutes)

Today calorimetry plays an important role both in experimental studies in high energy physics and in applied research. For determination of incident particles energy with higher energy resolution the digital calorimetry can be used [1]. The digital electromagnetic calorimeter includes the segmented layers and counts the total number of particles passing through the detector volume as opposed to an analogue calorimeter, which counts the total deposited energy in a given volume. In this work the new type of digital electromagnetic calorimeter, based on silicon pixel sensors has been proposed for the identification of electron beam parameters. The conception of such calorimeter was provided together with the experimental results from beam tests and GEANT Monte Carlo simulations.
The reported study was supported by RFBR, research project No. 18-02-40075.

[1] A.P. de Haas, G. Nooren, T. Peitzmann et al., "The FoCal prototype - an extremely fine-grainedelectromagnetic calorimeter using CMOS pixel sensors"JINST13 P01014, 2018

Author: RAKHMATULLINA, Alina (St Petersburg State University (RU))

Co-authors: Dr ZHEREBCHEVSKY, Vladimir (Saint-Petersburg State University (SPbSU)); Dr MALTSEV, Nikolaiy (SPbSU); NESTEROV, Dmitrii (St Petersburg State University (RU)); PICHUGINA, Daria (SPbSU); PROKOFIEV, Nikita (SPbSU)

Presenter: RAKHMATULLINA, Alina (St Petersburg State University (RU))

Session Classification: Poster session 3 (part 1)

Track Classification: Section 3. Modern nuclear physics methods and technologies.