Contribution ID: **104** Type: **Oral talk (15 min + 5 min questions)**

MONITORING OF PULSED INTERMEDIATE-ENERGY NUCLEON BEEMS USING AIR ACTIVATION

Proton therapy unit and pulsed neutron source have air channels for beam formation. Intermediate energy nucleons are non-elastically scattered by air atoms (nitrogen, oxygen, argon, etc.) and creates short-lived radionuclides (life tame from 20 ms to 100 s) in spallation process. Gamma and beta radiation from the decay of radionuclides can be used to pulsed nucleon beam monitoring. An activation monitor for direct measurement of the medium energy nucleon flux was based on MKS-01R radiometer and a single-board Raspberry Pi2 microcomputer. The monitor has been tested when detecting radiation particles from activated air at the proton therapy unit and at the pulsed neutron source.

The speaker is a student or young scientist

No

Section

1. Design and development of charged particle accelerators and ionizing radiation sources

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Presenter: Dr SKORKIN, Vladimir (INR RAS)

Session Classification: Design and development of charged particle accelerators and ionizing radiation sources