Performance of PADC Track Detectors in Fast Neutron Dosimetry Under Different Etching Conditions

Vendula Filová ^{1, a)}, Branislav Vrban ^{1, b)}, Pavol Blahušiak ^{2, c)}, Štefan Čerba ^{1, d)}, Jakub Lüley ^{1, e)} and Vladimír Nečas ^{1, f)}

¹Slovak University of Technology in Bratislava, Faculty of Electrical Engineering and Information Technology, Institute of Nuclear and Physical Engineering, Ilkovičova 3, 81219 Bratislava, Slovakia. ² Slovak Institute of Metrology, Karloveská 63, 842 55 Bratislava, Slovakia.

a) Corresponding author: vendula.filova@stuba.sk
b) branislav.vrban@stuba.sk, c) blahusiak@smu.gov.sk, d) stefan.cerba@stuba.sk, e) jakub.luley@stuba.sk,
f) vladimir.necas@stuba.sk

Abstract. The etching process is an essential part of the processing of solid-state nuclear track detectors. The thickness of the removed layer from the surface of the detector is one of the fundamental parameters of this method. The presented work studies the effect of small deviations in the etching time, leading to small deviations in the thickness of the removed layer, on the performance of the system for read-out and analysis.