

Figure 1: (a) Radiation camera MiniPIX-Timepix3 with customized signal and trigger-in electronics. (b) Illustration of measuring setup and source-to-detector geometry at the NG laboratory, VSB-TUO Ostrava. (c) Expected ToF neutron energy spectra at the detector position calculated by Monte-Carlo simulation.

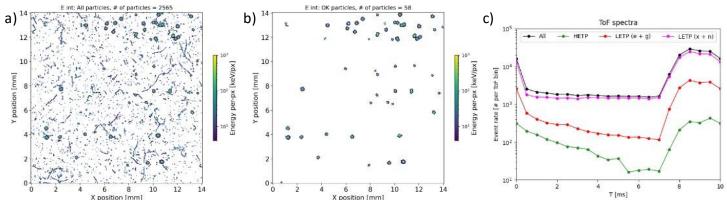


Figure 2: (a) Detection and track visualization of the radiation field produced by 14 MeV neutrons on the MiniPIX-Timepix3 detector with a 300 μm thick silicon sensor and neutron converter mask [3]. The data given are integrated for a 20 s interval showing all particles (no filters applied). (b) Filtered events corresponding to neutrons – both thermal (tracks on the upper right region of the thermal neutron mask [3]) and fast (direct neutron interactions in the detector silicon sensor). (c) Measured ToF spectrum of data acquired in 10 ms interval (many such intervals are integrated). Data plots are given for all particles (black) and resolved particle-type classes: High energy transfer particles (HETP) (green), Low energy transfer particles (LETP) evaluated into two groups: electrons and low-energy gamma rays (red) and X rays and low-energy transfer neutron induced interactions (magenta) [3].