Toy Monte-Carlo simulation of the OLVE-HERO detector

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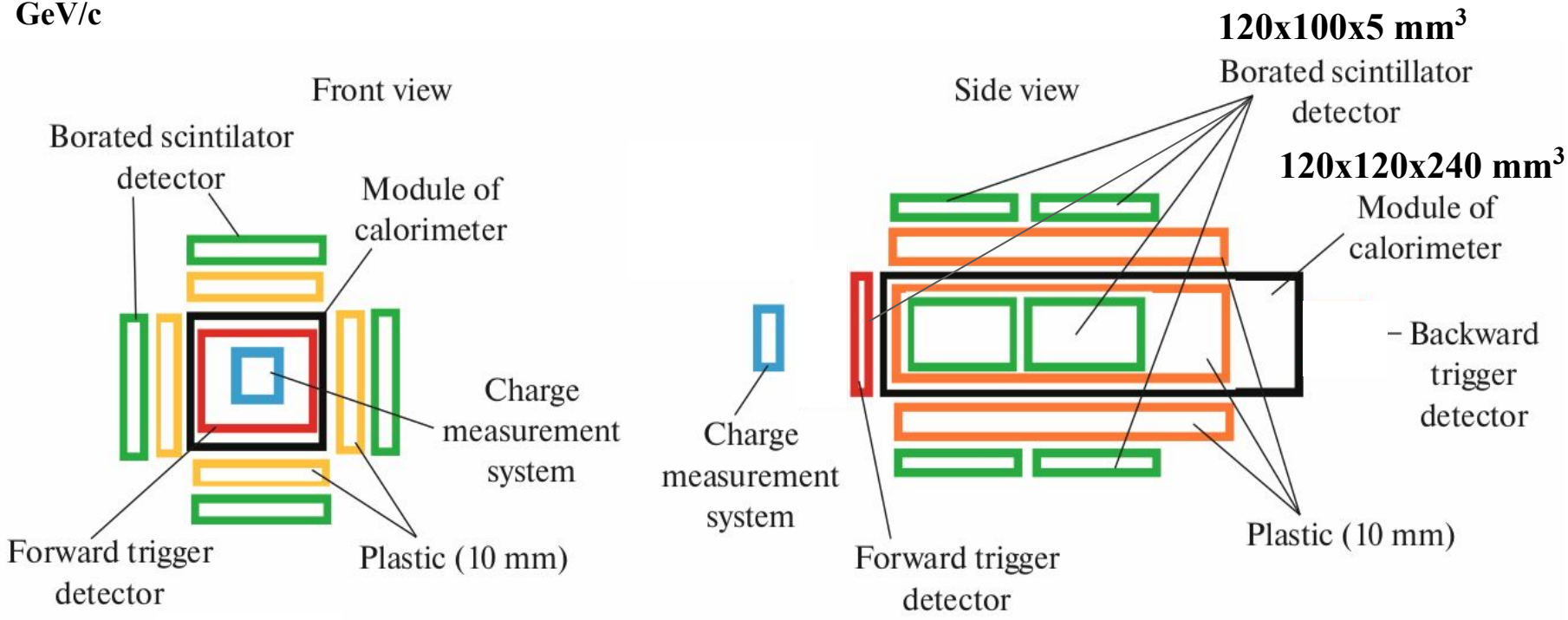
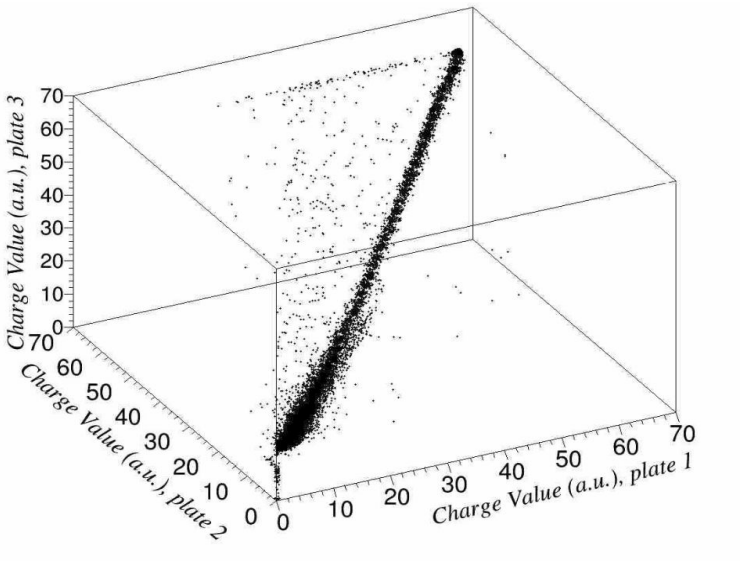
OLVE-HERO prototype scheme

The beam: A/Z = 2.1-2.2 E = 13 GeV/c

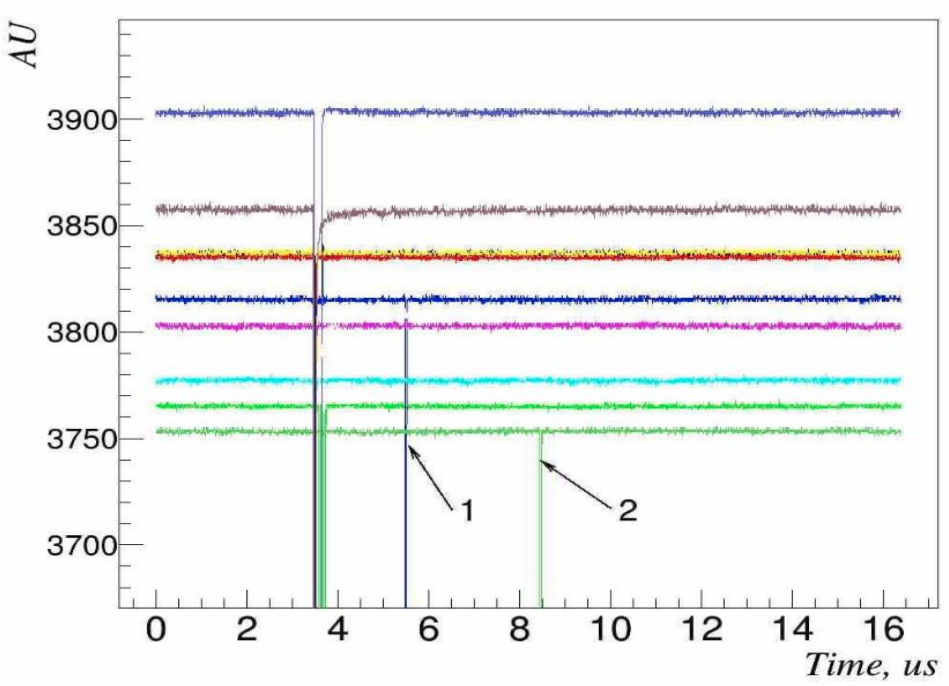


OLVE-HERO prototype scheme on the beam test experiment at SPS CERN.

OLVE-HERO prototype tests results

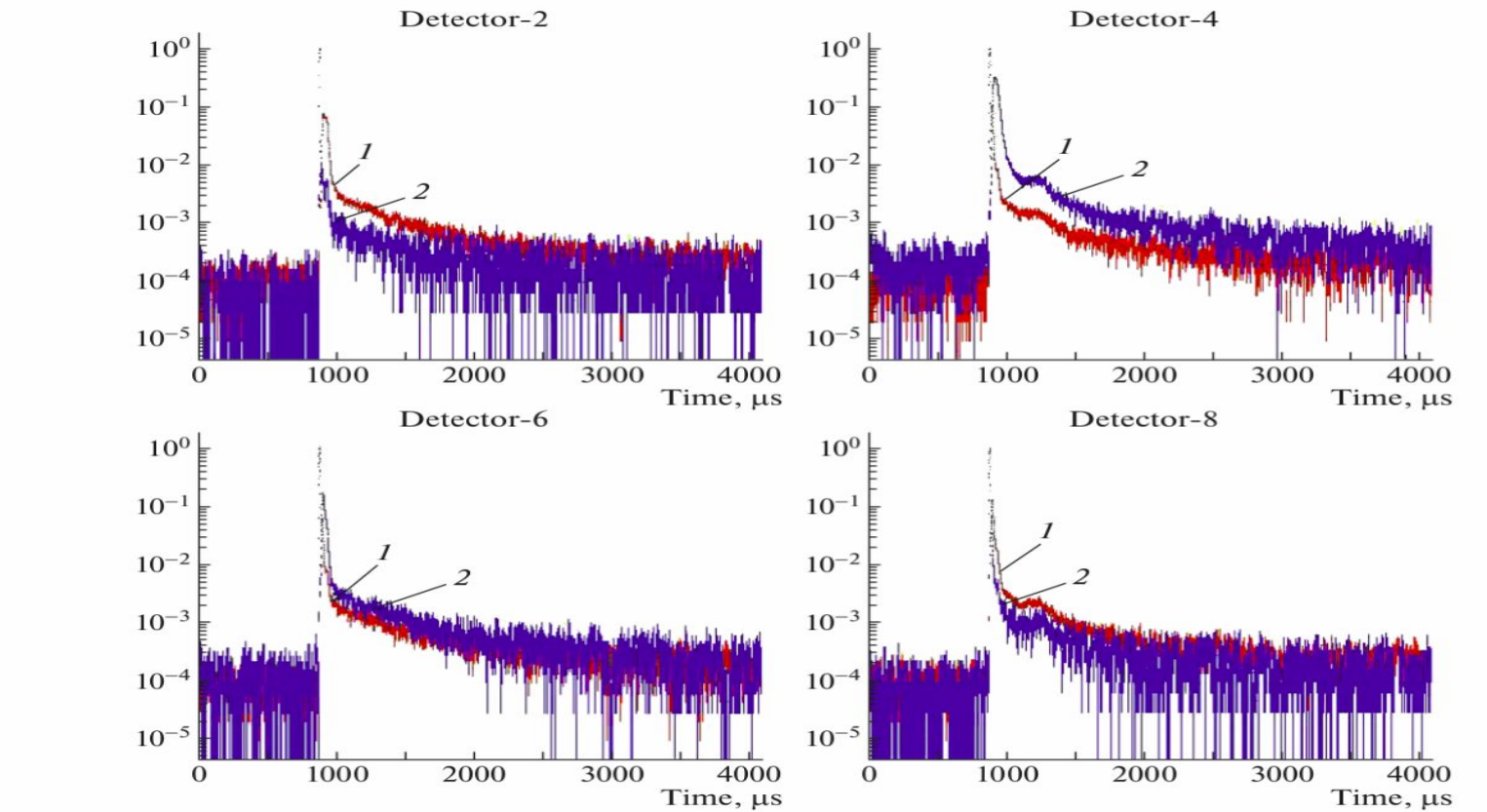


Amplitude correlation of CMS detectors



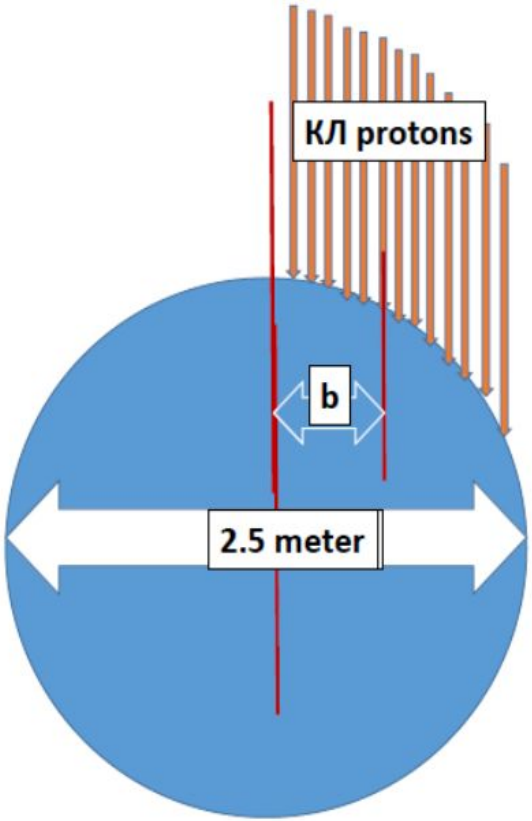
Example of time dependencies for the single event amplitudes with neutron peaks (1 and 2)

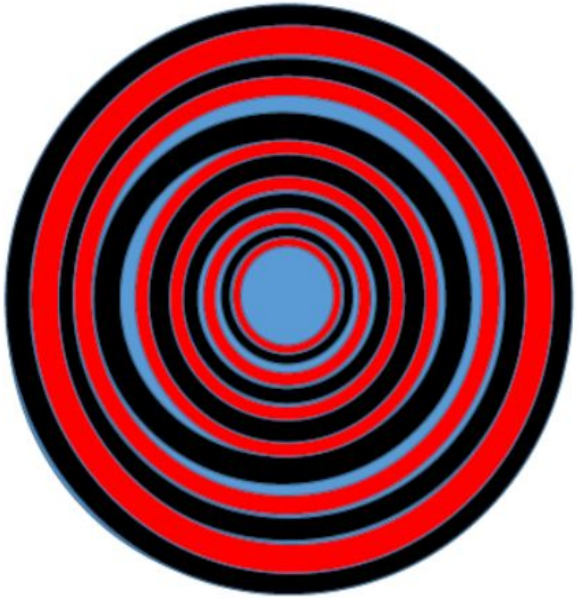
OLVE-HERO prototype tests results



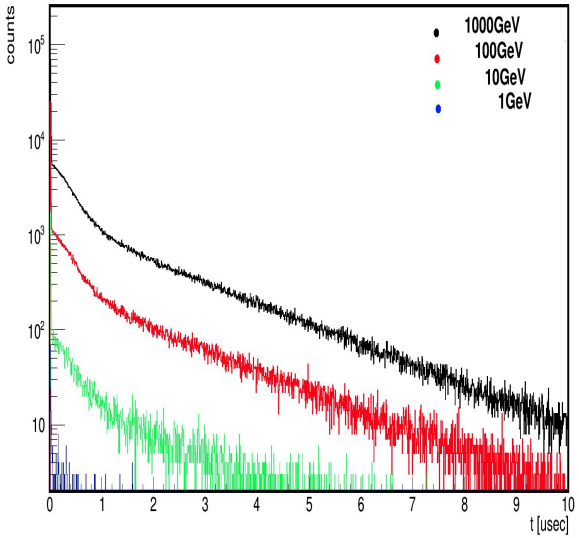
The time dependence of the neutron signals in the downstream BS detectors: (1) after the prototype shift, (2) before the prototype shift.

Monte-Carlo. Schematic view of the OLVE-HERO simplification detector

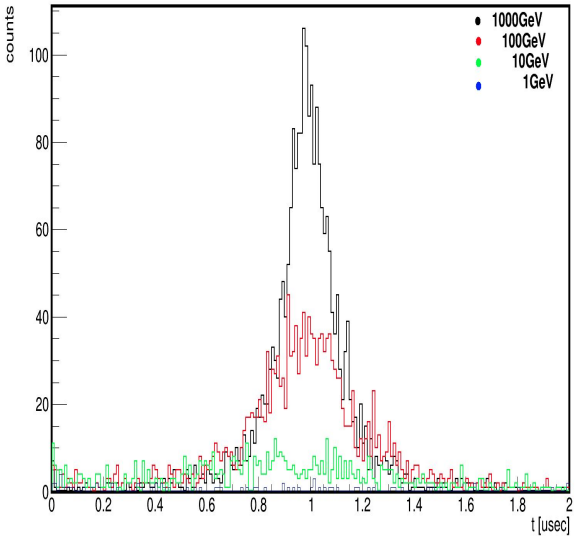




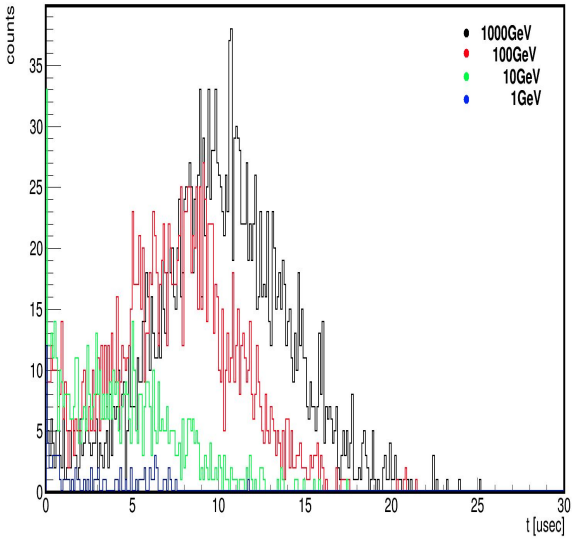
Results for the Monte-Carlo (fixed primary energy of protons)



The lifetime distributions of evaporated neutrons inside of the detector for the different energies of incoming protons.

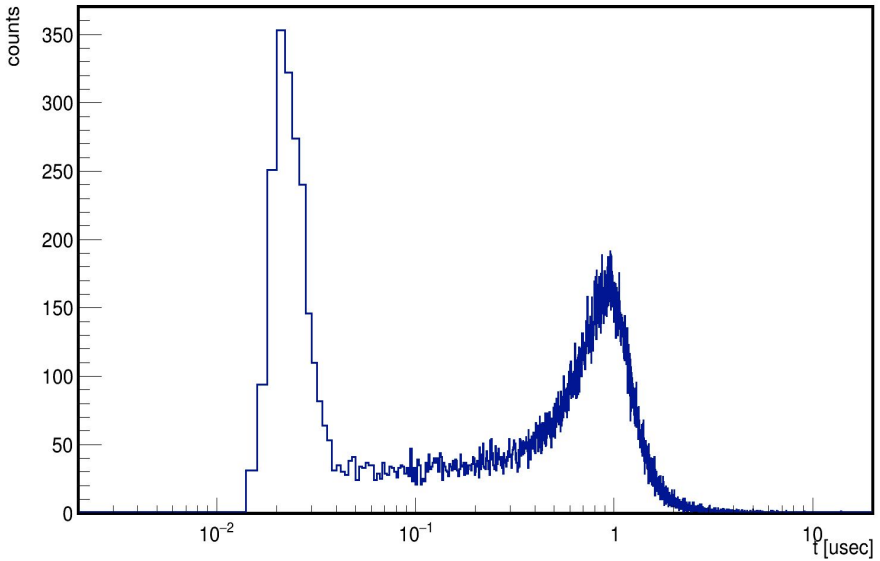


The average lifetimes of evaporated neutrons inside of the detector for the different energies of incoming protons

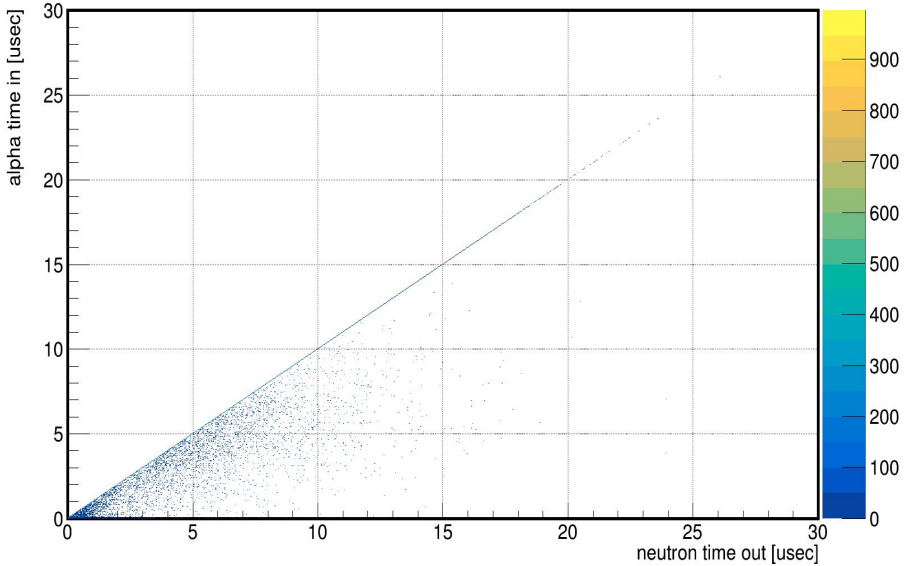


The time distributions of the last evaporated neutrons for the different energies of incoming protons

(Monte-Carlo) for primary protons with an energies those were obtained from the known CR energy spectrum. $-15^0 <= \theta <= 15^0$



The average lifetimes of evaporated neutrons inside of the detector for the different energies of incoming protons



The correlation between time moment, when the last alpha particle are born in an event and the time moment when the last neutron leave the detector or It was absorbed by It

Thank you for your attention!