Contribution ID: **397** Type: **Oral talk (15 min + 5 min questions)**

TIME-PICKOFF METHOD TO THE PIN DIODE SIGNAL BASED ON THE MATHEMATICAL FORMALISM OF SUBJECTIVE MODELING

The report discusses a new method and algorithm for solving the problem of determining the velocity of a heavy ion using a semiconductor detector (PIN diode), using the mathematical formalism of subjective modeling (MFSM), which allows to mathematically formulate both a subjective model of the object under study and a subjective mathematical model of its measurements and their subjective interpretation. To solve the problem of determining the velocity of a heavy ion, an algorithm based on the mathematical formalism of subjective modeling has been developed and implemented, which allows to restore the unknown shape of the pulse leading edge by a smoothing spline with the following special condition: the initial part of the spline (on the left) is given by the parabola equation, and the vertex of this parabola should lie on the averaged noise line, since in the absence of noise the leading edge begins to grow from the zero line. To determine the optimal smoothing factor of the spline, subjective optimality criterion was used.

The speaker is a student or young scientist

No

Section

1. Experimental and theoretical studies of nuclear reactions

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