

X/47

EFFICIENCY INVESTIGATION OF THE MULTIELEMENT PROPORTIONAL  
COUNTER FOR THE  $^{136}\text{Xe}$  DOUBLE BETA DECAY SEARCH

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The double beta decay is one of the rarest processes that may occur in nature. The present interest in this process is connected with mass and charge conjugation properties of the electron neutrino, with the lepton number non-conservation and with the possible right-handed admixtures in the weak lepton current. All this information can be obtained from the study of the neutrinoless  $2\beta_0$  decay. In this article we investigate properties of the 61 channel multielement proportional counter, which is proposed for the  $^{136}\text{Xe}$  double beta decay search. If the diameter of the counter element is about 15 mm and the length of 600 mm, Monte Carlo calculations for the 30 atmosphere xenon filling show that practically all electrons with  $E=2$  Mev, which are produced in any counter element, will pass into at least one adjacent counter, about 40 % those will hit three adjacent counters and only about 20 % will hit more than three adjacent counters. Simulation of interactions and tracks of electrons allows us to obtain distribution of the ionisation density along the electron track. We hope that subsequent computations will allow to reveal an optimal criterion for the selection of the real  $2\beta_{0\nu}$  events.