

ANALYSIS OF PARASITIC
SIGNALS IN THE METHOD OF RECOIL
NUCLEI APPLIED TO DIRECT OBSERVATION
OF THE ^{229m}Th ISOMERIC STATE

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S u m m a r y

We carry out necessary theoretical justifications for the method of recoil nuclei in application to the direct observation of the ^{229m}Th isomeric state. We consider Cherenkov radiation, phosphorescence, and fluorescence in a crystal plate, which is used for collecting the thorium recoil nuclei, and discuss the ways to avoid these parasitic signals in order to successfully reveal ^{229m}Th decay photons.