Abstract Submitted
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TOF-counter calibration for spectroscopy experiment of pionic atoms at RIBF MUNEAKI IMAI[1], The University of Tokyo — We used the ^{122}Sn(d,^{3}He) reaction at T_d =500 MeV to measure the binding energy of ^{121}Sn and pion at RIKEN RIBF. To identify ^{3}He and determine its momentum, we installed TOF-counters and MWDCs at the focal planes of BigRIPS. The TOF-counters worked as particle identifier and triggered the MWDCs, and the MWDCs enabled us to detect the incident position of ^{3}He. The TOF-counters consisted of two groups set in upper (F5-counter) and lower (F7) streams. The F5-counter, which worked under severe rate environment, was segmented into two pieces of plastic scintillators (240*45*3.2 mm) with two PMTs on left and right edges. We conducted F5-counter calibration by using a ^{90}Sr source to get the ideal gain by setting a proper impressed voltage to the PMTs, so that we could successfully distinguish ^{3}He from intense backgrounds of proton and deuteron by determining an appropriate discriminator threshold.

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