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Precise Q value measurements of ^{112,113}Ag and ^{115}Cd with the Canadian Penning Trap for evaluation of potential ultra-low Q value β-decays[1] N. GAMAGE, R. SANDLER, M. REDSHAW, Central Michigan U, J. CLARK, R. DWAIPAYAN, ANL, U. of Manitoba, K. SHARMA, U. of Manitoba, R. ORFORD, ANL, McGill U., F. BUCHINGER, McGill U., G. SAVARD, ANL, U. of Chicago, W. PORTER, U. of Notre Dame — Ultra low Q-value (ULQ) β-decays in which the parent decays to an excited state of the daughter with a Q<1 keV, are of interest as potential candidates for neutrino mass determination experiments, and to investigate atomic interference effects in β-decay. To date, the only known ULQ β-decay is that of ^{115}In to the ^{115}Sn($3/2^+$) state with Q = 155(24) eV. A number of other potential ULQ β-decays have been identified using atomic mass and nuclear energy level data, but more precise masses are required to determine if the potential decays are energetically allowed and <1 keV. Penning traps have performed more precise Q value determinations for some of these candidates, including ^{89}Sr and ^{139}Ba with LEBIT at NSCL/FRIB, which ruled them out, and ^{135}Cs with JYFLTRAP at Jyväskyla, which showed that it is a potential candidate. Here we present results of Q value measurements for candidates ^{112,113}Ag and ^{115}Cd performed with the Canadian Penning Trap at Argonne National Laboratory.

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