Abstract Submitted
for the HAW14 Meeting of
The American Physical Society

High precision systematic measurement of deeply bound pionic atoms KENTA ITAHASHI, RIKEN, PIAF COLLABORATION — We report results from our recent precision measurement of pionic Sn atoms in RIBF. The presentation will include results from our pilot run in 2010 and our first production series of measurement in June 2014. We have just finished data taking of the experimental spectroscopy of pionic 1s and 2s states in 121Sn atom. We employed 250 MeV/u deuteron beam impinged on the 122Sn target, and measured 3He emitted in the 122Sn(d,3He) nuclear reaction. We measured Q-value of the reaction to measure the pionic atom spectra. The experiment is aiming at first simultaneous measurement of 1s and 2s pionic state in Sn atom by a high resolution spectroscopy, that will benefit in improving the systematic errors arising in the absolute energy scale. The results will set stringent constraints on the deduced quantities of chiral condensate at the normal nuclear density.

Kenta Itahashi
RIKEN

Date submitted: 29 Jun 2014 Electronic form version 1.4