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Missing mass spectroscopy of ^{4}H via exothermic charge exchange reaction (^{8}He, ^{8}Liγ) HIROYUKI MIYA, CNS, University of Tokyo — Charge exchange reactions are powerful tools in the study of spin-isospin responses in nuclei. The RI beam induced reactions have the variety of spin-isospin and the high Q-Value with internal energy. We aimed to study the nuclear structure of unbound nuetron rich 4H. This work is the first measurement of (^{8}He(0^{+}), ^{8}Li(1^{+})) reaction at the energy of 190 MeV/u. This reaction has the feature of the large mass difference of 11 MeV and tagging $\Delta\ S = \Delta\ T = 1$ transition mode by detecting de-excited γ-rays (980 keV) form first 1^{+} state in ^{8}Li. The experiment was performed with the SHARAQ spectrometer combined with the γ-ray detector array DALI2 in RIBF. The ^{8}He beam produced via thr projectile fragmentation of ^{18}O was irradiated liquid ^{4}He target at the intensity of about 2 MHz. Excitation energy was obtained by measuring the momenta of the ^{8}He and ^{8}Li beams in the beamline and the SHARAQ by using missing-mass method. In this presentation, the result of the present experiment will be reported.

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