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Search for η' mesic nuclei with (p,d) reaction at GSI[1] YOSHIKI K. TANAKA, University of Tokyo, η-PRIME COLLABORATION — We report a spectroscopy experiment of the (p,d) reaction searching for η' mesic nuclei. The large mass of the η' meson is explained by the axial anomaly effect associated with spontaneous breaking of chiral symmetry. In nuclear medium, due to restoration of chiral symmetry, mass of the η' meson may be reduced, and η' meson-nucleus bound states may exist. To search for such η' mesic nuclei, we plan an inclusive measurement of the ^{12}C (p,d) reaction around the η' emission threshold using a 2.5 GeV proton beam at GSI. For momentum analysis of the ejectile deuteron, the FRS (Fragment Separator) is used as a spectrometer. The first experiment will be carried out in July-August 2014. The status of the experiment and preliminary results will be reported.

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