

Spectroscopy of nuclei with multi-strangeness by using new S-2S spectrometer at J-PARC

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The missing mass spectroscopy of Ξ^- hypernuclei is planned at the Japan Proton Accelerator Research Complex (J-PARC) by using the (K^-, K^+) reaction. We are constructing a new magnetic spectrometer, S-2S, which has a better momentum resolution [$\Delta p/p = 5 \times 10^{-4}$ (FWHM)] than that of an existing spectrometer (SKS) at J-PARC. S-2S would give us an opportunity to confirm the existence of Ξ^- hypernucleus as a peak structure owing to both the high momentum resolution and its reasonably large solid angle. Brief descriptions of our experiment and of its preparation status are presented in this article.

KEYWORDS: Ξ^- hypernucleus, (K^-, K^+) reaction, Missing mass spectroscopy

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