

Abstract Submitted
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Precision spectroscopy of kaonic atom x rays at DAΦNE with silicon drift detectors in SIDDHARTA (III)¹ HEXI SHI, University of Tokyo, SIDDHARTA COLLABORATION — The SIDDHARTA (Silicon Drift Detector for Hadronic Atom Research by Timing Application) project is currently in progress at the DAΦNE e^+e^- collider in LNF (Laboratori Nazionali di Frascati), Italy. In this experiment, the K -series x rays of kaonic hydrogen atom will be measured to a precision below 10 eV to determine the strong-interaction shift and width of the kaonic hydrogen atom $1s$ state with the best accuracy ever, which is important for the understanding of the kaon nucleon interaction. A gaseous target is used to stop the kaons produced resonantly through $\Phi \rightarrow K^+K^-$ at DAΦNE interaction point. And the specifically designed SDDs with a time resolution at micro-second order in addition to an energy resolution of about 150 eV FWHM at 6 keV, were introduced to achieve both a good timing selection to reduce background and a high energy resolution. The array of 144 such SDDs each with 1 cm² effective surface will cover a large sensitive area, leading to a better acceptance of kaonic x rays. Preliminary results of the measurement carried out in 2009 will be discussed.

¹On behalf of SIDDHARTA collaboration.

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