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Sili- con Drift Detectors for high precision kaonic atoms X-ray spectroscopy

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High precision X-ray spectroscopy of kaonic atoms offers the unique opportunity to investigate the strong interaction (QCD) in the low-energy regime, by allowing to directly access the antikaon-nucleus interaction at threshold. In order to do this, a new dedicated technology of Silicon Drift Detectors (SDDs) has been developed by the SIDDHARTA-2 collaboration, with an optimized geometry and a new field configuration, which allows the SDDs to work in the high background environment of the DAFNE collider. The unique features of these SDDs make them ideal for high precision X-ray spectroscopy and kaonic atoms experiments such as SIDDHARTA-2 at LNF-INFN. The contribution will present the working principle, the technical features and the characterization of the SDDs energy response, in preparation for the SIDDHARTA-2 data taking campaign.

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