



Contribution ID: 5

Type: **Talk**

## Testing the Strong Interaction at Low Energies with the SIDDHARTA-2 Apparatus

Kaonic atoms provide an ideal probe to test the low-energy QCD. The SIDDHARTA-2 experiment aims to measure the  $2p \rightarrow 1s$  transition in kaonic deuterium to extract the energy shift and broadening of the  $K^- d$  ground state, induced by the strong interaction. Due to the low  $K^- d$  X-ray yield, the signal-to-background ratio has to be increased by one order of magnitude compared to the kaonic hydrogen measurement. Therefore, the apparatus features three main updates: a large-area X-ray detection system consisting of Silicon Drift Detectors, a cryogenic, lightweight target cell, and a two-step veto system for active background suppression. The motivation for these measures as well as their characteristics will be presented.

**Author:** TUECHLER, Marlene (Stefan Meyer Institute)

**Presenter:** TUECHLER, Marlene (Stefan Meyer Institute)

**Session Classification:** Nuclear, Particle- & Astrophysics

**Track Classification:** Nuclear, Particle- and Astrophysics (FAKT - TASK)