

Job ID: SMI048PD223

The Stefan Meyer Institute for Subatomic Physics of the Austrian Academy of Sciences in Vienna ([SMI](#)), of the Austrian Academy of Sciences in Vienna ([OeAW](#)), is devoted to the study of fundamental symmetries and interactions. In its division “Hadron Physics”, a new position for a

## POSTDOC POSITION (F/M/X)

*in experimental study of low-energy QCD performing kaonic atom spectroscopy*  
(full-time, 40h per week)

(duration 1 year) is open for applications.

### Your tasks:

Confinement implies that QCD in the low-energy limit is realized as a theory of hadronic degrees of freedom rather than on the quark-gluon level. An appropriate framework is Chiral Effective Field Theory, a systematic approach describing the interactions of bosons amongst each other and with baryons. Measurements of the antikaon–nucleon interaction close to threshold provides crucial information on low-energy QCD, e.g. on the interplay between spontaneous and explicit chiral symmetry breaking, with impact to astrophysics (neutron stars).

The proposed kaonic deuterium experiment SIDDHARTA-2 at DAFNE at the Laboratori Nazionali di Frascati (Italy) will measure transition X-ray energies to the ground state of kaonic deuterium atoms. The experimental challenge of kaonic deuterium measurements is the very small kaonic deuterium X-ray yield, the large width (compared to kaonic hydrogen) and the difficulty to perform X-ray spectroscopy in the high radiation environment of a machine, like DAFNE. It was therefore crucial to develop a large area X-ray detector system to optimize on the signal side and to control and improve the signal-to-background ratio by improving the timing capability as well as by the usage of charged particle veto devices.

The experimental apparatus for SIDDHARTA-2 is already installed at DAFNE, ready for a first data taking campaign in the first half of 2023.

### Your profile:

- PhD degree in experimental physics related to the field.
- participating in data taking and contributing to the data analysis.
- Special programming skills in C++ and knowledge in ROOT for data analysis are mandatory.

The contract will have a duration of one year with an annual gross salary of € 60.926,60 in accordance with the collective agreement of the Austrian Science Fund. The Austrian Academy of Sciences is an equal opportunity employer.

The current call for applications ends on **May 31<sup>st</sup>, 2023**. Applications should be submitted per email to [smi@oeaw.ac.at](mailto:smi@oeaw.ac.at) referencing Job-ID: SMI048PD223, including CV, letter of motivation and graded study records. For informal enquiries and more information please email [johann.zmeskal@oeaw.ac.at](mailto:johann.zmeskal@oeaw.ac.at)

*The Austrian Academy of Sciences (OeAW) pursues a non-discriminatory employment policy and values equal opportunities, as well as diversity. Individuals from underrepresented groups are particularly encouraged to apply.*