



One of the unanswered questions in modern physics is the asymmetry in the abundance between matter and antimatter in our universe. The goal of the **BASE collaboration** is to explore this asymmetry in the baryonic sector comparing the properties of protons and antiprotons.

Currently, we are searching for a **PhD student joining our experimental work** that aims to improve the precision of proton/antiproton precision measurements. To this end, we are developing sympathetic cooling methods for protons and antiprotons with the goal to perform measurements with single protons and antiprotons close to the Doppler cooling limit. Antiprotons lack a cooling method for temperatures below 4 K, and our envisaged developments are decisive for antimatter precision measurements at low temperatures.

You will have the opportunity to learn various experimental techniques in our group:

- Building cryogenic experiments and trap systems at 4.2K
- Laser cooling and image-current coupling
- Precision measurement techniques for single particles
- Antimatter physics and precision spectroscopy on single ions

If you are interested in an experimental physics PhD position with a broad spectrum of activities, e.g. experiment design, hands-on experiments, data taking and data analysis, please contact us!

