

# Practical Course in Particle Physics

at the Paul Scherrer Institut  
(PSI, Switzerland), Summer 2019

Perform a real particle physics experiment at a  
PSI beam-line.

Learn experimental particle physics hands-on.

Join a group of 10-12 students from ETH Zürich and  
Heidelberg and Mainz Universities for one week of  
preparations in Heidelberg and two weeks of beam  
time at the world's most powerful accelerator at PSI.

Design and build your experiment from available  
detector components, take data during a 24/7 beam  
time. Analyse the data and write up the results.

Example measurements:

- Branching ratio  $B(\pi \rightarrow e\nu)/B(\pi \rightarrow \mu\nu)$
- Panofsky ratio  $B(\pi^- p \rightarrow n\pi^0)/B(\pi^- p \rightarrow n\gamma)$
- Lifetimes and decay parameters of muons and pions



**Limited number of places, please register early!**

The course (MVPSI) is part of the master programme of the faculty for physics and  
astronomy in Heidelberg



**Next course:  
26.8.-13.9.2019**

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