

## Status of the positron beamline at MAMI

P. Klag, W. Lauth, H. Backe, I. Beltschikow, P. Drexler

Institut für Kernphysik, Johannes Gutenberg-Universität, D-55099 Mainz, Germany

Email: [pklag02@uni-mainz.de](mailto:pklag02@uni-mainz.de)

The Institute for Nuclear Physics of the University of Mainz operates the accelerator complex MAMI which supplies an electron beam with a maximum energy of 1.6 GeV and a beam current of up to 100  $\mu$ A. Outstanding qualities of MAMI is the continuous beam with an excellent beam quality of 4  $\pi$  nm rad emittance, a very low energy spread of less than  $10^{-4}$ , as well as its extremely high reliability. All kind of channeling experiments require such a high quality beam with a low divergence. Positrons, however, are more preferable because they have a significant longer de-channeling length. The aim of a new project is the preparation of high-quality positron beam using the MAMI accelerator.

The current beamline comprises a thin conversion target, a positron spectrometer for energy selection (530MeV) and detector systems. The very low emittance of the positron beam, allows proper focusing via a pair of quadrupoles to a low divergence. A parallel positron has been demanded by theory for future channeling radiation experiments. Preliminary tests of the positron beamline have been performed and will be presented within the talk.

### References

1. H. Backe , W. Lauth, P. Drexler, P. Klag, B. Ledroit, and F. Stieler, Eur. Phys. J. D (2022) 76:150.

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