

A new source for ultracold neutrons at TRIGA Mainz: latest results

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Ultracold neutrons (UCN) are a powerful tool for addressing many fascinating questions in particle physics, nuclear physics, and astronomy.

UCNs offer unique opportunities for investigating the properties of the free neutron, such as its lifetime, with exceptionally high precision. In order to tackle the obvious count rate limitations, super-thermal UCN sources are now under construction at different places worldwide.

Within PRISMA cluster of excellence the existing UCN source at

TRIGA Mainz will be upgraded in its performance to reach very high

UCN number densities. The talk gives an overview on the present optimization work at the pulsable UCN source at beamport D, measures

to improve the UCN yield and future plans to establish a user facility at TRIGA Mainz.

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