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## The $\tau$ SPECT neutron lifetime experiment

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Ultracold Neutrons (UCN) provide a unique tool for fundamental neutron research with long observation times.

The  $\tau$ SPECT experiment, which is currently being commissioned at the pulsed UCN source of the TRIGA Mainz research reactor, aims to utilize this fact in order to precisely measure the free neutron lifetime. In order to reduce systematic errors with respect to storage experiments using material bottles,  $\tau$ SPECT implements 3D magnetic storage of spin polarized UCN and will be able to measure both the decaying and the surviving UCN.

The current state of the  $\tau$ SPECT experiment and results from the first tests with neutrons will be presented.

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