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Solid deuterium source of ultra-cold neutrons at TRIGA Mainz

abstract: At the pulsed reactor TRIGA at Mainz a superthermal solid deuterium source of UCN has been built and tested. At its present stage of development up to 200.000 UCN per reactor pulse can be detected with one pulse every 5 min. The poster discusses our recent results and shows that the UCN yield can easily been increased by a factor of 10 in an upgraded setup. This initiative to build a powerful UCN source is a collaboration of the institute of physics and the institute of nuclear chemistry at Mainz as well as the physics department E18 at Garching.