

Development of a project for a universal trap for storing ultracold neutrons



Project leader: A.P. Serebrov
Presenter: A.K. Fomin



G.N. Klyushnikov, A.O. Koptuyukhov, A.N. Murashkin

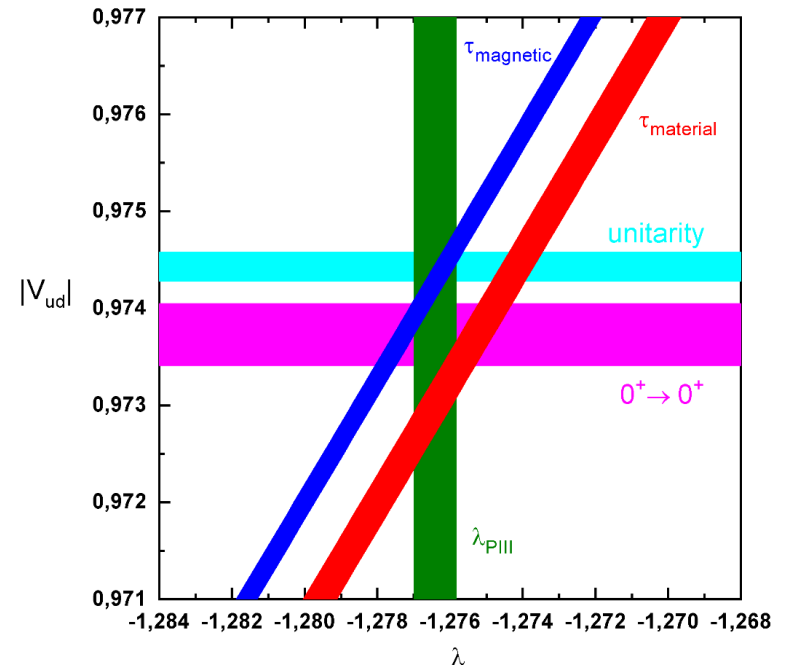
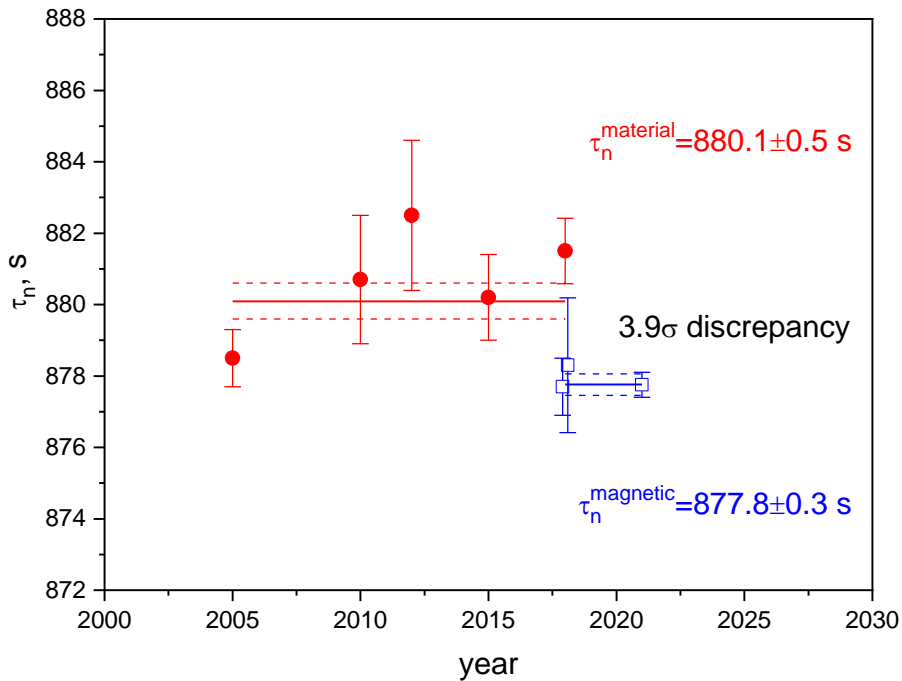
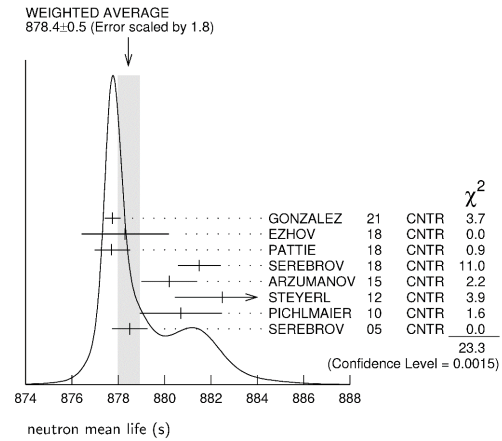
NRC «Kurchatov Institute» - PNPI, Russia, Gatchina

ISINN-30

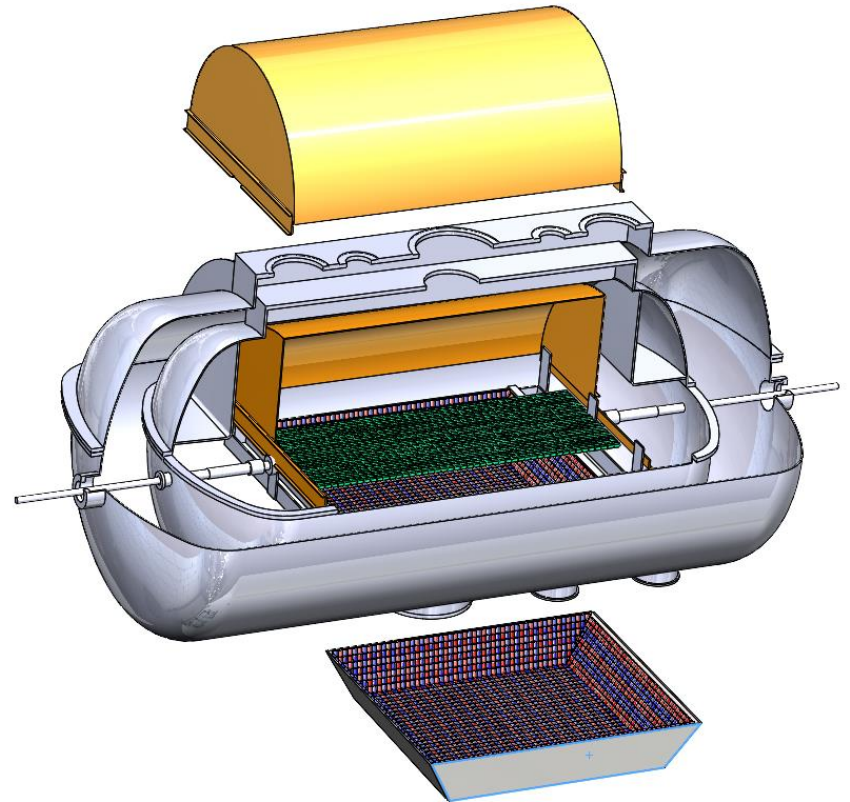
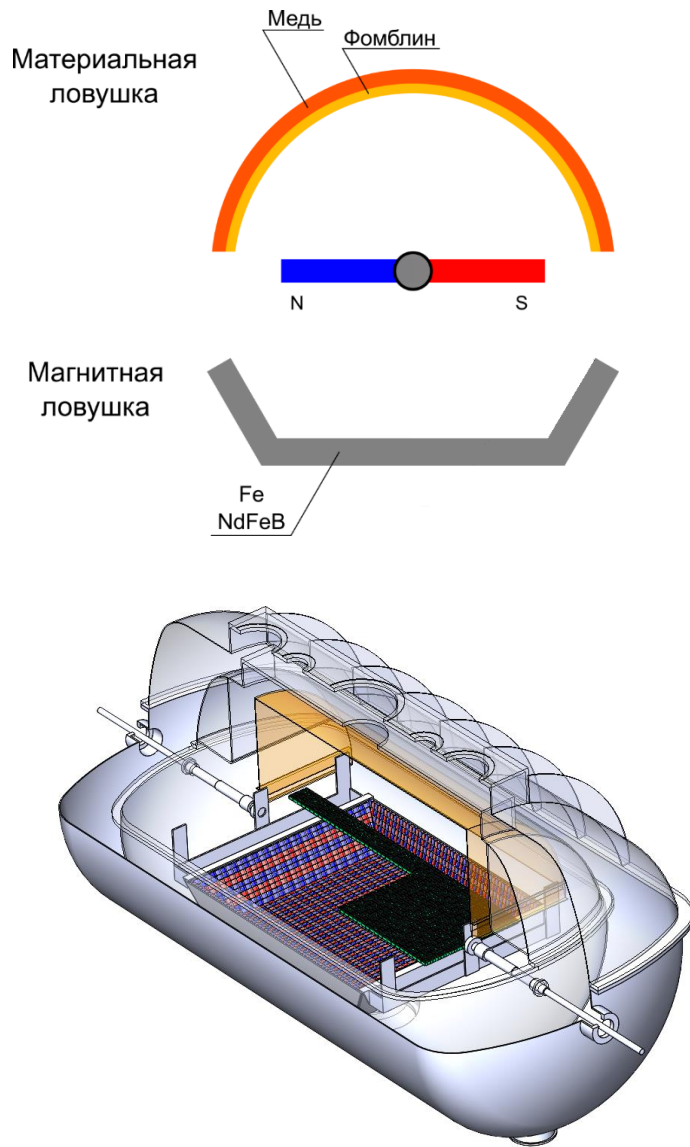
Sharm El-Sheikh, Egypt, April 14-18, 2024

Motivation

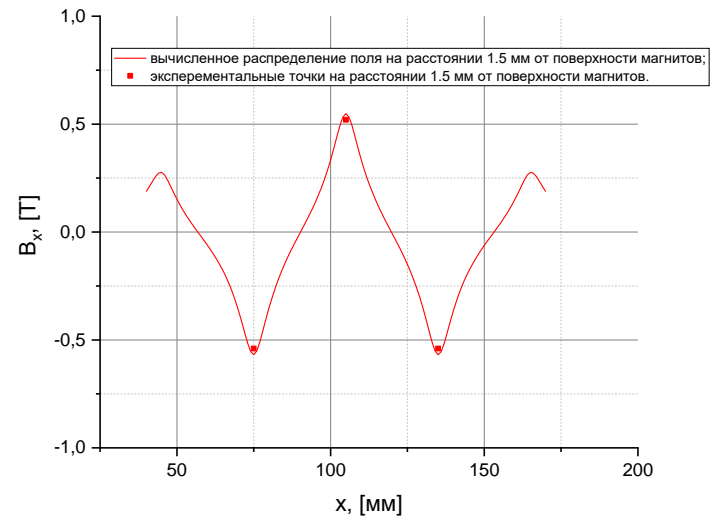
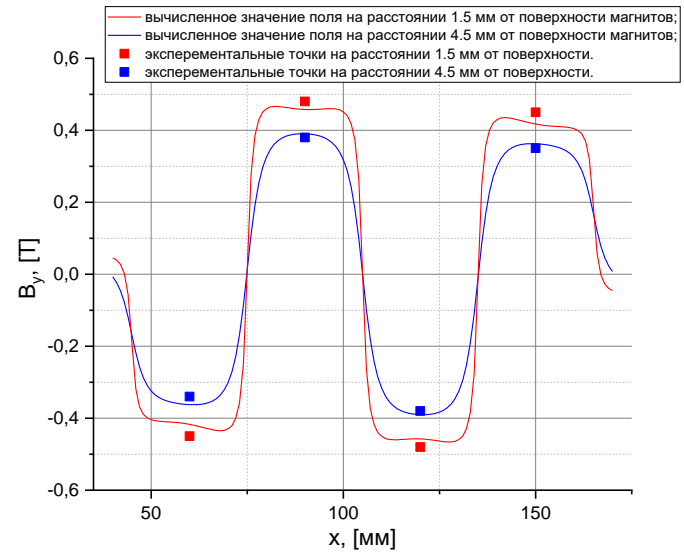
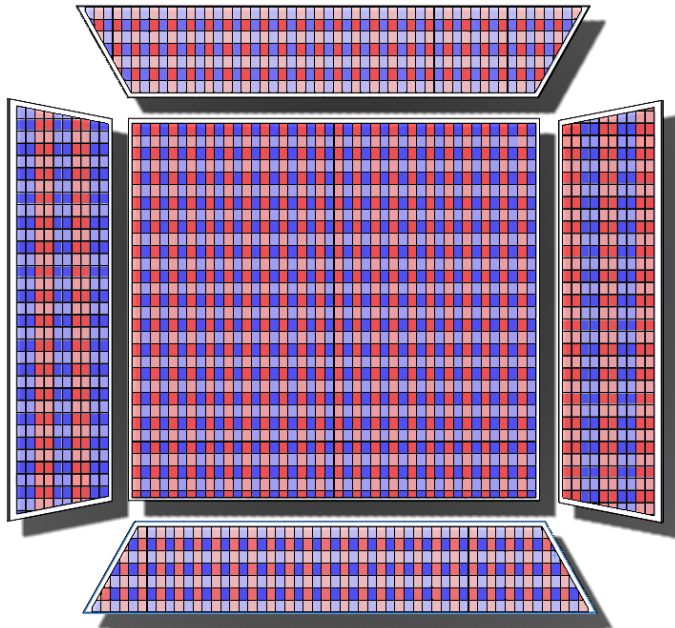
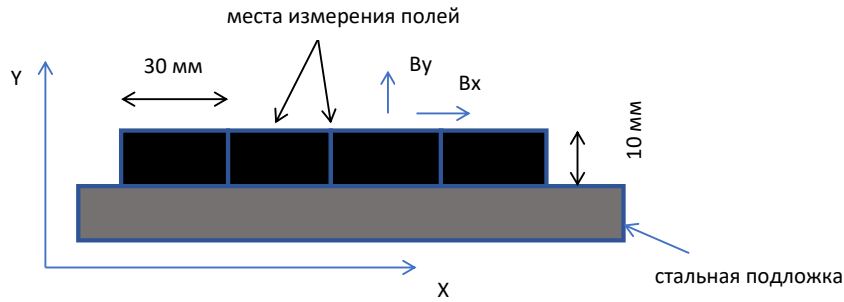
VALUE (s)	DOCUMENT ID	TECN	COMMENT
878.4 ± 0.5 OUR AVERAGE	Error includes scale factor of 1.8. See the ideogram below.		
877.75 ± 0.28 ⁺ _{-0.16}	GONZALEZ	21	CNTR UCN asym. magnetic trap
878.3 ± 1.6 ± 1.0	EZHOV	18	CNTR UCN magneto-gravit. trap
877.7 ± 0.7 ⁺ _{-0.2}	¹ PATTIE	18	CNTR UCN asym. magnetic trap
881.5 ± 0.7 ± 0.6	SEREBROV	18	CNTR UCN gravitational trap
880.2 ± 1.2	² ARZUMANOV	15	CNTR UCN double bottle
882.5 ± 1.4 ± 1.5	³ STEYERL	12	CNTR UCN material bottle
880.7 ± 1.3 ± 1.2	PICHLMAIER	10	CNTR UCN material bottle
878.5 ± 0.7 ± 0.3	SEREBROV	05	CNTR UCN gravitational trap



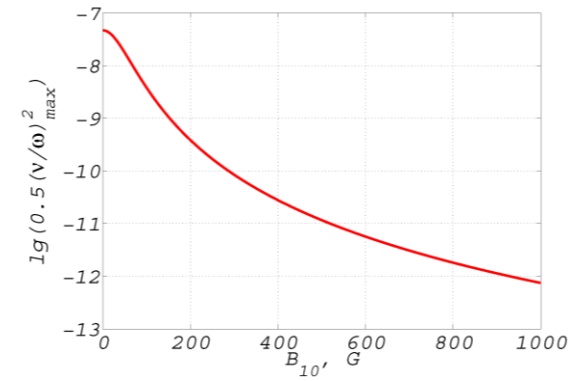
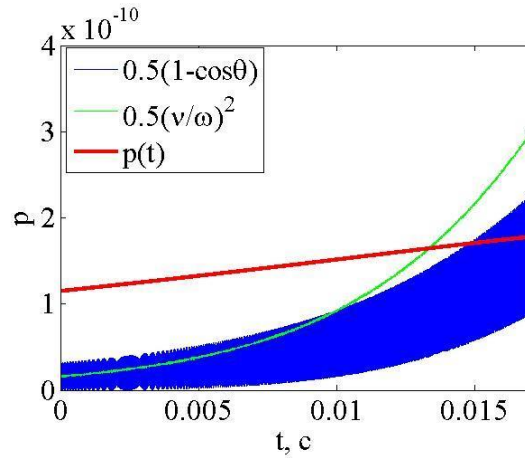
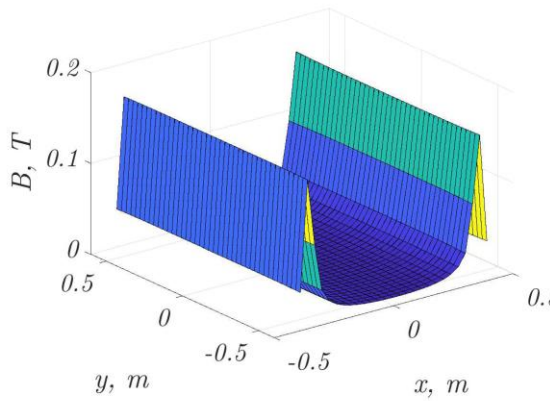
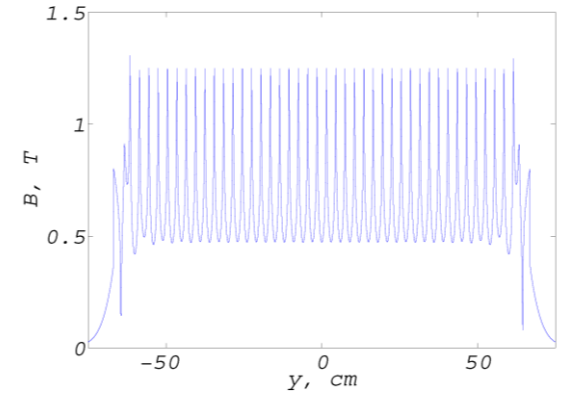
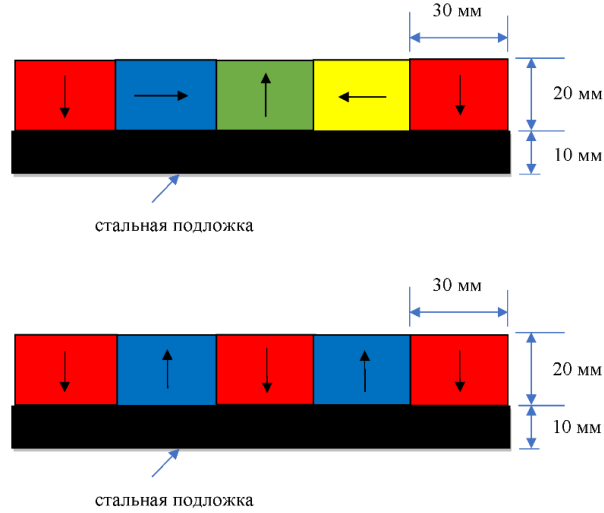
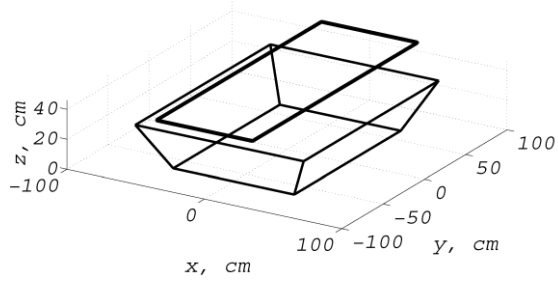
Construction



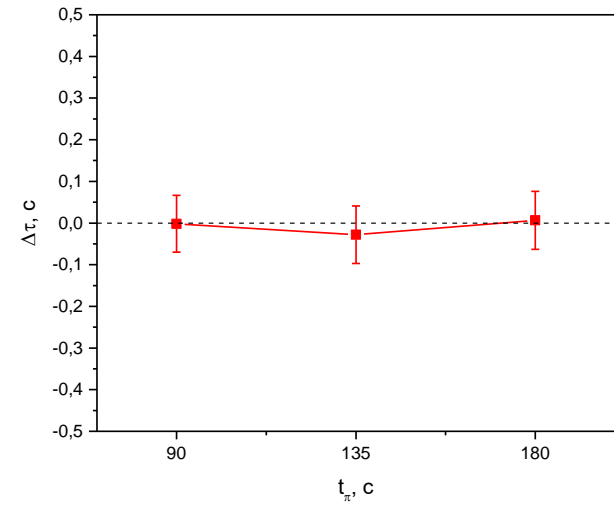
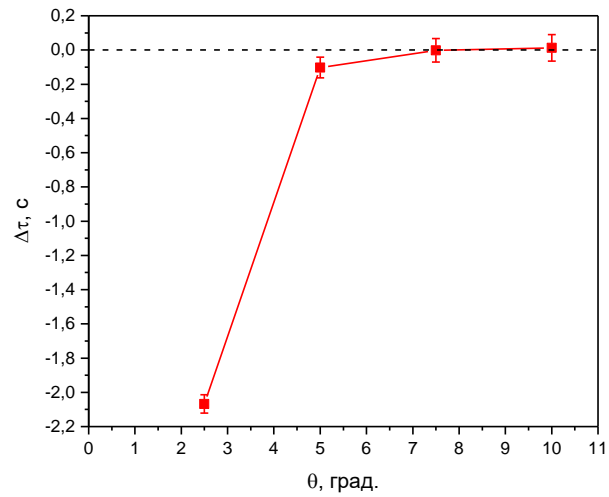
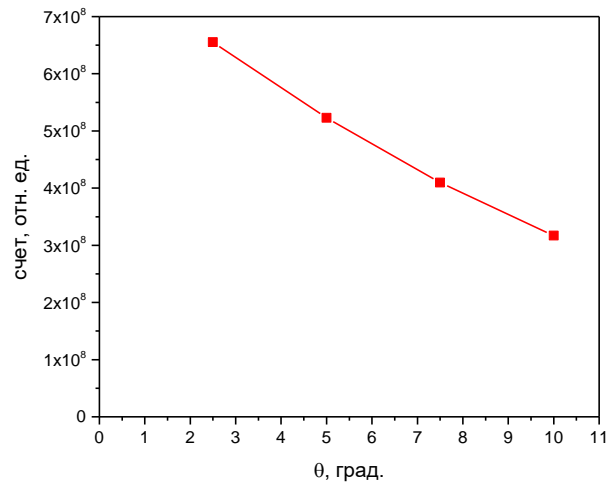
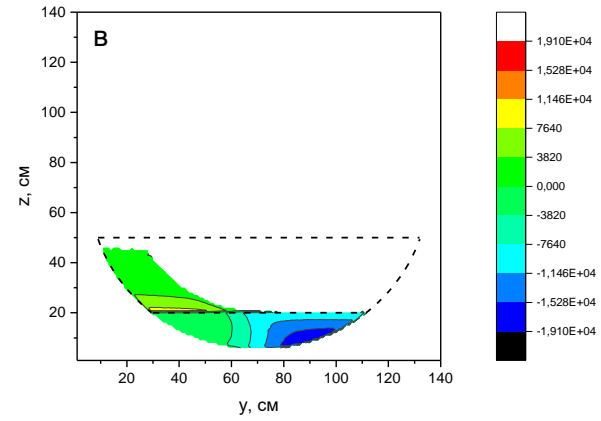
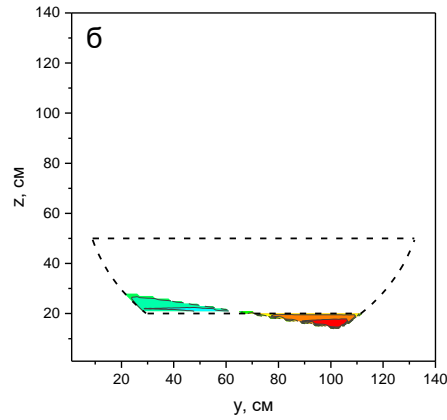
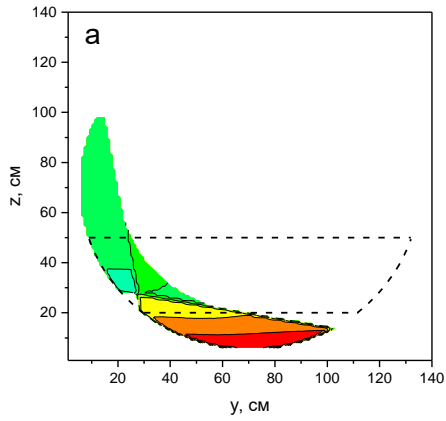
Magnetic field test



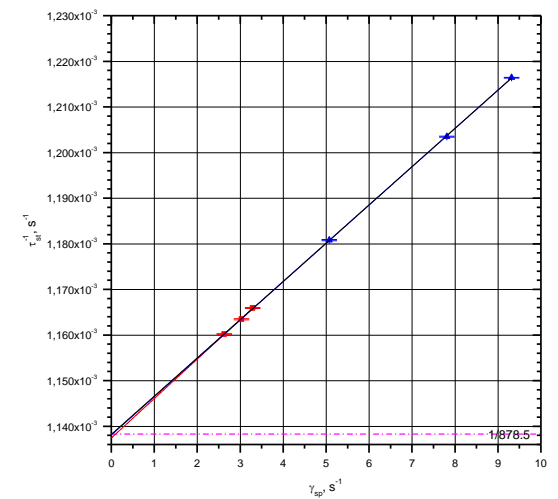
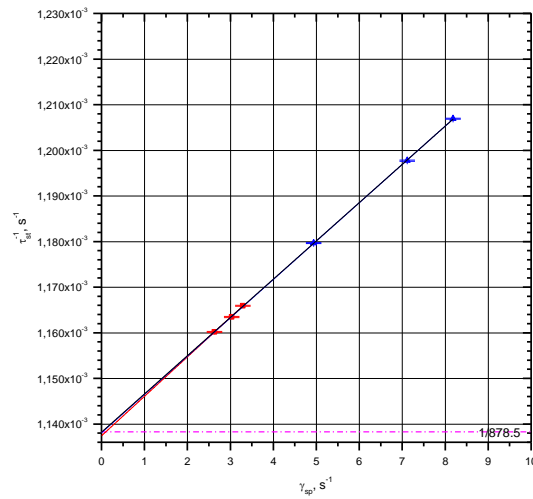
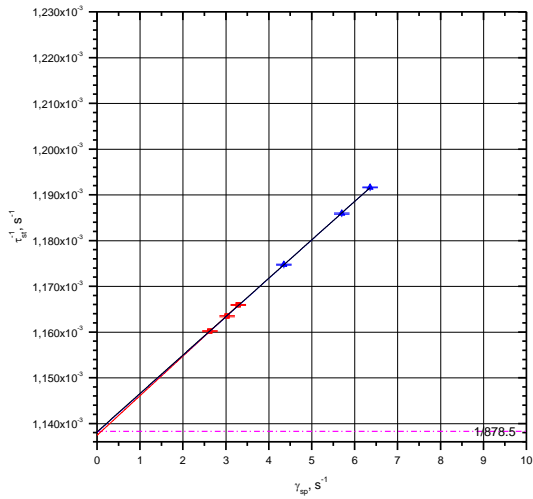
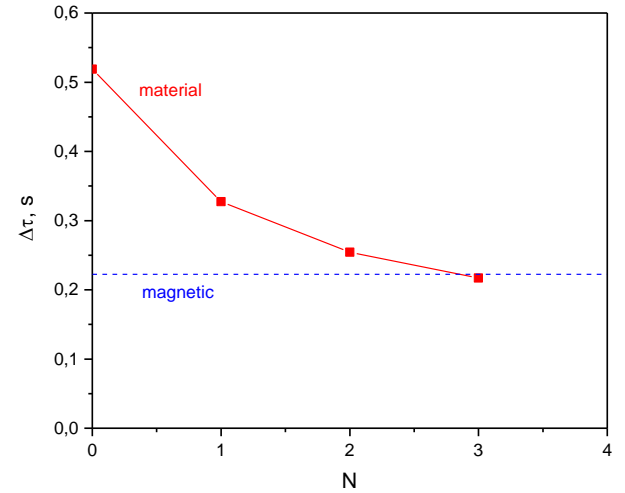
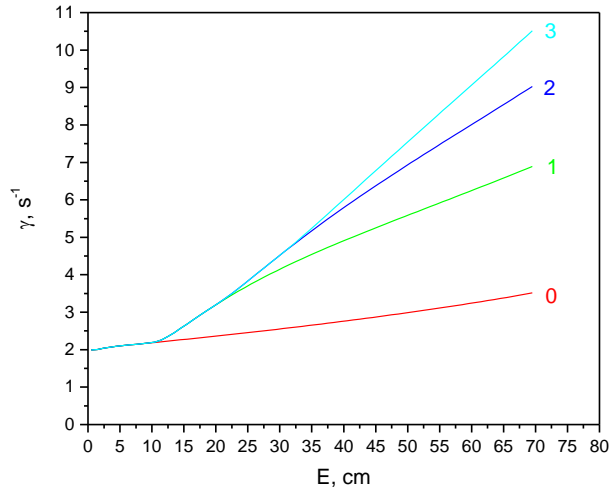
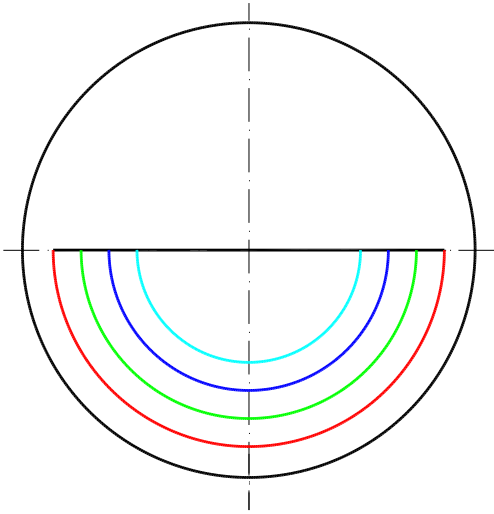
Depolarization



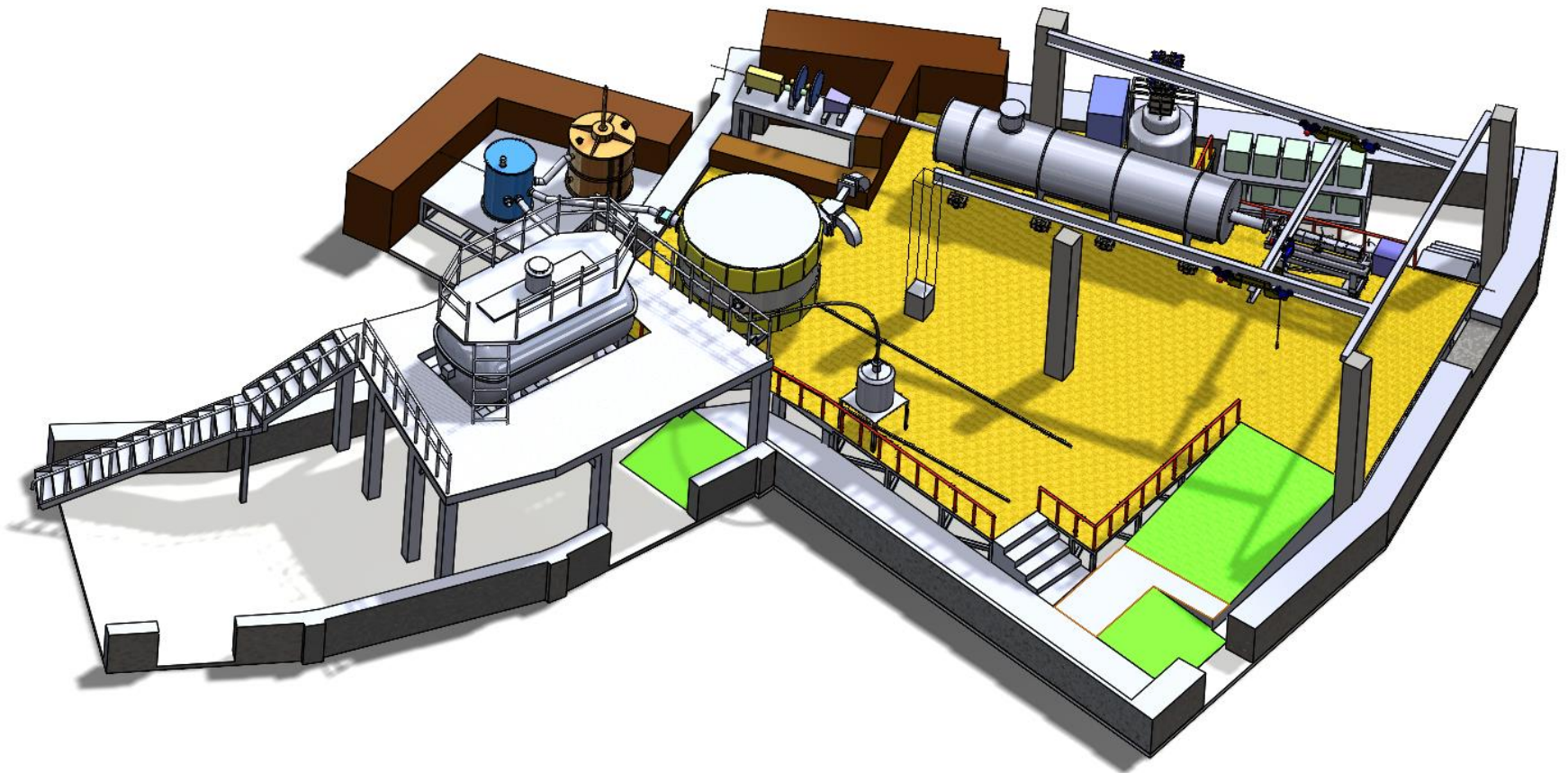
Turbine effect



Sensitivity



Position at the reactor PIK



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