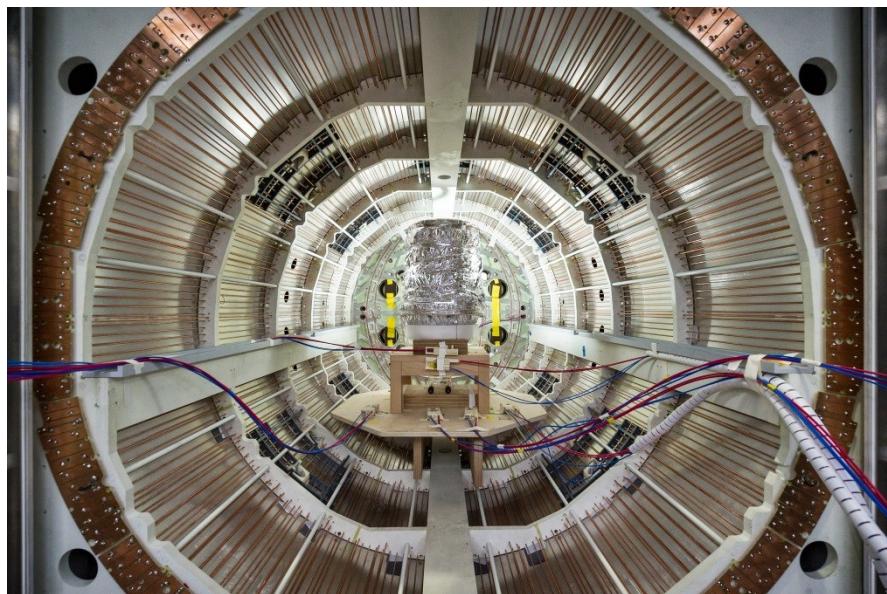




The Neutron and the Universe.

Stephan Paul (TU München)

Tuesday, 05 July 2016, 16:45 h, DESY Auditorium



The history of the early Universe offers several key puzzles, which are presently addressed by particle physics. They include the matter/antimatter asymmetry, the left-handedness of the Universe and primordial nucleosynthesis. All these questions are directly related to discrete symmetries and their violation. When using accelerators, the sensitivity for their exploration is directly connected to the maximum beam energy. Neutrons offer a complementary approach and the sensitivity is only given by the experimental precision achievable. In addition the search for new phenomena becomes less model dependent. Since about a decade, particle physics with neutrons is also used to address gravity and gravity-like forces with unprecedented precision. This may be one of the very few ways, how to address issues relevant to the very early Universe. The talk will give an overview on the physics and the experimental approaches and will also highlight some of the challenges which are met.

- **Coffee, tea and cookies will be served at 16:30h**
- **After the seminar there is a chance for private discussions with the speaker over wine and pretzels**

