

Fundamental Neutron Physics at the ILL

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The Institut Laue Langevin (ILL) is an international research centre at the leading edge of neutron science and technology. As the world's flagship centre for neutron science, the ILL provides scientists with a very high flux of neutrons feeding some 40 state-of-the-art instruments, which are constantly being developed and upgraded. The instruments of the nuclear and particle physics group (NPP) and their fields of research are briefly presented. ILL's two ultracold neutron installations are described in more detail. The ongoing research program using ultracold neutrons to measure the lifetime of the free neutron, to search for an electric dipole moment, and in gravity resonance spectroscopy are highlighted.

About the speaker

Peter W.H. Geltenbort received a PhD from the University of Tuebingen, Germany, in 1983. He joined the Nuclear and Particle Physics (NPP) College at the ILL in 1983 responsible for a fission fragment spectrometer. From 1989 to 1993 he held the position of Head of the Detector Group. In 1993 he reintegrated into the NPP group responsible for the Ultracold Neutron/Very Cold Neutron facilities at the ILL. His current research interests are the fundamental properties of the neutron.