

NMR/ON measurement of magnetic moments of high-spin K-isomers in Hf isotopes.

In a recent experiment at the NICOLE on-line nuclear orientation facility, gamma ray anisotropy and nuclear magnetic resonance measurements were made on Hf isomeric states. A HfF₃ beam was used to implant separated Hf isotopes into a magnetized pure nickel foil cooled to temperatures down to ~10 millikelvin.

A new NMR/ON resonance was observed in the 8- 180mHf isomer. Angular distribution was measured for many gamma-ray transitions in the decay of this isomer and the decay of isomeric states in 177Hf.

Data analysis is in progress and preliminary results will be reported.

Primary author: RISEGARI, Lara (Centre de Spectrométrie Nucléaire et de Spectrométrie de Masse (CSNSM)-91405 Orsay Campus, France)

Co-authors: DEO, A. (Department of Physics, University of Surrey, GU2 7XH Guildford, UK); BINGHAM, C. (Department of Physics and Astronomy, University of Tennessee, Knoxville, TN37996, USA); GAULARD, Carole (Centre de Spectrométrie Nucléaire et de Spectrométrie de Masse (CSNSM)-91405 Orsay Campus, France); SIMPSON, Gary (Laboratoire de Physique Subatomique et de Cosmologie (LPSC), 38026 Grenoble Cedex, France); AUDI, Georges (Centre de Spectrométrie Nucléaire et de Spectrométrie de Masse (CSNSM)-91405 Orsay Campus, France); STONE, Jirina R. (Department of Physics, University of Oxford, OX1 3PU Oxford, UK ; Department of Physics and Astronomy, University of Tennessee, Knoxville, TN37996, USA ; Department of Chemistry and Biochemistry, University of Maryland, College Park, MD20742, USA); NISHIMURA, K. (Faculty of Engineering, Toyama University, Toyama 930, Japan); STONE, Nick J. (Department of Physics, University of Oxford, OX1 3PU Oxford, UK and Department of Physics and Astronomy, University of Tennessee, Knoxville, TN37996, USA); WALKER, P.M. (Department of Physics, University of Surrey, GU2 7XH Guildford, UK); MUTO, S. (Neutron Science Laboratory, KEK, 305-0801 Tsukuba, Japan); OHYA, S. (Department of Physics, Niigata University, Niigata, Japan); OHTSUBO, T. (Department of Physics, Niigata University, Niigata, Japan); KOESTER, Ulli (Institut Laue Langevin, F-38042 Grenoble Cedex 9, France and ISOLDE, CERN, CH-1211 Geneva 23, Switzerland); WALTERS, W.B. (Department of Chemistry and Biochemistry, University of Maryland, College Park, MD20742, USA)

Presenter: RISEGARI, Lara (Centre de Spectrométrie Nucléaire et de Spectrométrie de Masse (CSNSM)-91405 Orsay Campus, France)