

FAKULTÄT für PHYSIK
LUDWIG-MAXIMILIANS-UNIVERSITÄT
MÜNCHEN/GARCHING

PHYSIK-DEPARTMENT
TECHNISCHE UNIVERSITÄT MÜNCHEN
MÜNCHEN/GARCHING

MLL-KOLLOQUIUM

Donnerstag, 05.11.2015, 16¹⁵ Uhr

Seminarraum 127, TUM, Physik II, Erdgeschoss/Nord
Treffen zum gemeinsamen Kaffee 16 Uhr

Lars von der Wense

(LMU / LS Parodi)

Towards a nuclear clock: On the direct detection of the Thorium-229 isomer

In the whole landscape of atomic nuclei, ^{229}Th possesses the only known transition which could allow for the development of a nuclear frequency standard. The corresponding isomeric state has an energy of just 7.8 eV, which is even accessible by laser and frequency-comb technology. The isomer to ground-state transition, however, could not be directly detected within the past 40 years, despite significant efforts.

In the presentation, the first time unambiguous direct detection of the isomeric transition is described. This detection will allow for the determination of the decay parameters and in this way pave the way for the development of a nuclear clock.

gez. Peter Thirolf
Tel. 289-14064

gez. Norbert Kaiser
Tel. 289-12367