

# The Orsay Universal Plunger System - past, present, and future

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In a collaboration between Centre de Sciences Nucléaires et de Sciences de la Matière (CSNSM) and Institut de physique nucléaire d'Orsay (IPNO) a so-called Plunger device used for Recoil Distance Doppler Shift measurements and Time Differential Recoil-in-Vacuum measurements for g-factor measurements has been developed.

I will present the device, in the forefront of the transition from two motor technology to that of using a single Piezo electric step motor. This will be followed by the presentation of the major experimental campaigns in which the OUPS has been used:

- 1 - Campaign at the ALTO facility using the ORGAM HPGe detector array.
- 2 - Campaign at the ALTO facility using the MINORCA detector array.
- 3 - Campaign at the GANIL facility using the AGATA HPGe detector array combined with the VAMOS spectrometer.

The physics addressed is varied ranging from shape coexistence in the neutron deficient Osmium isotopes to lifetime measurements close to  $^{208}\text{Pb}$  passing by shell evolution for neutron rich nuclei close to  $N=40$  and  $N=50$ . Both published and not published result will be presented.

I will end with a few words about the immediate future of the use of version of the OUPS to be used at AGATA together with the NEDA neutron detector and DIAMANT charged particle detector and possible prospects for lifetime measurements for very heavy nuclei with the AGATA+VAMOS gas filled combination at GANIL.

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