

Bose Einstein condensate is a large topic of interest in the domain of atomic physics for its peculiar properties. In LPL, we study the collective modes of a BEC trapped into an ellipsoid surface. We prepare experimentally a cloud of around 10^5 rubidium atoms in a quadrupole magnetic field dressed with a radio-frequency. This creates a trapping potential for the atoms in the shape of an ellipsoid. By tuning the magnetic gradient, it is possible to partially compensate gravity and study the dynamics of the cloud when we vary this parameter. The motion of the center of mass of the cloud on the surface of the ellipsoid can be well described with a harmonic plus quartic oscillator model. We present here the experimental observation of such a motion induced by a modulated magnetic field from an external coil, that sets the whole shell into motion. From these observations, we manage to have access to specific parameters of the system, such as the trapping frequency and the quartic parameter.