Poster Session #A
Laboratory tests of gravitation

A03

How does antimatter fall?: focus on the GBAR experiment (CERN)

Olivier Rousselle (Laboratoire Kastler Brossel Paris)

One of the main questions of fundamental physics is the action of gravity on antimatter. We present here the simulation of the last part of the experiment GBAR at CERN, i.e. the measurement of the free fall acceleration $\bar{g}$ of antihydrogen atoms in the gravitational field of Earth. It includes the Monte-Carlo generation of trajectories and the analysis leading to the estimation of $\bar{g}$. A precision of the measurement beyond the % level is confirmed by taking into account the experimental design.