Contribution ID: **9** Type: **Contributed talk**

Gravity and antimatter: the AEgIS experiment at CERN

Monday 24 July 2017 15:31 (15 minutes)

From the experimental point of view, very little is known about the gravitational interaction between matter and antimatter. In particular, the Weak Equivalence Principle, which is of paramount importance for the General Relativity, hasn't been directly probed with antimatter yet. The main goal of the AEgIS experiment at CERN is to perform a direct measurement of the gravitational force on antimatter. The idea is to measure the vertical displacement of a beam of cold antihydrogen atoms, traveling in the gravitational field of the Earth, by the means of a moiré deflectometer. An overview of the physics goals of the experiment, of its apparatus and of the first results is presented.

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Session Classification: Cosmology, Gravitational Waves, & Cosmic Rays

Track Classification: Cosmology