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ACTAR TPC for decay studies

The ACTAR TPC device is being developed in order to perform various types of nuclear physics experiments, based on nuclear reactions studies ("active target") or on radioactive decays. Since the events topology may be different according to the kind of experiment, two detector geometries are considered in the project, sharing the same electronics (GET).
The first chamber ("reaction") has been built at GANIL, and a first in-beam test was performed in November 2017, mainly for a commissioning of the "active target"running of the detector, using a light 18O beam. In addition, some data have been taken with a heavier beam of 136Xe, in order to test some specific issues of the decay studies.
The presentation aims to introduce the physics program that can be addressed with decay experiments using ACTAR TPC, with a focus on the specific difficulties of such experiments. Related to this point, we will present some preliminary analysis of the test at GANIL. Finally, the current status of the "decay chamber", the second ACTAR TPC geometry under construction, will be shown.

Author: Dr GIOVINAZZO, Jérôme (CENBG CNRS/IN2P3 / University of Bordeaux)

Orateur: Dr GIOVINAZZO, Jérôme (CENBG CNRS/IN2P3 / University of Bordeaux)