Contribution ID: **31** Type: **Talk in young researcher session**

Measurement of the X17 anomaly with the MEG II detector

Tuesday 5 July 2022 14:15 (15 minutes)

In 2016 the ATOMKI collaboration measured an anomaly in the angular distribution of the pair produced by the M1 transition of the isoscalar 1+ state on 8Be, which might be explained by creation and decay of a boson, the X17, with mass 16.7 MeV/c2.

The MEGII detector is thought to measure the cLFV decay mu to e and gamma, but it could measure the X17 anomaly with a different detection technique and refuse or validate the results from ATOMKI.

We plan on using the Cylindrical Drift Chamber and the Constant Bending RAdius magnet of the MEG II experiment to measure the momentum of the electron-positron pair, with timing information coming from the pixelated Timing Counter.

The reaction will be produced impinging a 1050 keV proton beam on a LiPON target, and a set of scintillating detectors will be used to detect the gammas coming from concurrent nuclear processes to monitor the status of the target as time elapses.

We present the current status of the set-up, the first data taking period in February 2022 and the plan for the coming beam time.

Primary author: DAL MASO, Giovanni

Co-author: FOR THE MEG II COLLABORATION

Presenter: DAL MASO, Giovanni

Session Classification: Young researcher session

Track Classification: Young researcher session