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Polarization of trapped ions in MORA at IGISOL

Around us we see an universe filled with galaxies, stars and planets like ours. But when we look back to the Big Bang and the processes that created the matter in it, at first we observe that there should have been created the same amount of matter and antimatter, thus the universe would be empty or different than it is. Sakharov suggested several conditions to explain the matter-antimatter asymmetry, one of them being the violation of the CP symmetry.

In the MORA experiment, we aim to measure the D correlation, which is non zero for violation of T symmetry in polarized nuclei, thus it can be related to CPV. For this we use a detector setup made of MCP's, Phoswiches and Si detectors, to measure coincidences between beta emissions and recoil ions, product of the beta decay of trapped 23Mg ions.

In this talk I will show the latest progress of MORA at IGISOL, the challenges we have overcome, like the 23Na+ contamination, and the latest measurements of the polarization degree and D correlation.

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