

Search for sources of CP violation with the ATLAS detector at the LHC

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Charge Parity violation is one of Sakharov's conditions, necessary to explain the asymmetry between matter and antimatter in the Universe. The Standard Model (SM) of particle physics, being the most successful theory of particle physics to date, does not provide sufficient sources of CP violation to explain the excess of matter measured. This is one of the arguments suggesting that the SM is valid only at the energies probed so far and should be completed by new physics manifesting at higher energies.

The SM Effective Field Theory (SMEFT) provides a theoretical framework to constrain new physics parameters within the energy range reachable at LHC. This talk provides an overview of the results obtained by the ATLAS collaboration on CP violating SMEFT parameters in the bosonic sector and presents the strategies implemented in that goal.

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