



Title of the thesis: Search for Direct Violation of Time Reversal Symmetry T in the semi-leptonic decays of the heavy baryon Λ_{cb} into $\Lambda_{cb} \mu \nu_{\mu}$ with the LHCb detector at CERN. Determination of the Resonance Polarizations coming from Λ_{cb} decays.

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Summary : The research work performed by M.Kozeiha indicates clearly that there is a serious sign of non-conservation of Time Reversal Symmetry T when studying the Normal Component P_N of the charmed baryon Λ_{cb} vector-polarization coming from the weak semi-leptonic decay of the beauty baryon Λ_{cb} . The P_N values exposed by M.Kozeiha during his thesis defence (30/11/2017) are different from zero with more than 3.6 standard-deviation.

In the proposed thesis, we suggest to perform very thorough measurements of P_N and other observables with the new data collected by the LHCb detector during the years 2016 and 2017. A very careful analysis of the different sources of backgrounds must be studied. If the preceding results of P_N are proved correct, it will be a clear and unambiguous sign of direct violation of the symmetry T .