

Precision measurements on dipole moments of the tau and hadronic multi-body final states

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In the framework of precision experiments, the search for electric dipole moments and the precise determination of magnetic dipole moments ($g-2$) have since long be of prime interest. Tau leptons play a particular role owing to the large mass as compared to the electron and muon.

The precision of these measurements is, at the one hand, dominated by radiative corrections, which govern the production of tau leptons in $e+e-$ colliders.

The search for electric dipole moments on the other hand relies on the determination of spin correlations of the tau pairs and thus on the analyzing

power of its decay. Three body hadronic decays play a significant role but require correct modeling. They can only be studied precisely through partial wave analyses, which

may reveal even small contributions of partial waves, mostly still ignored today. We will enlighten on both the precision experiments and the technique of analyzing three body hadronic decays of tau leptons and demonstrate the impact of precision.

What is your topic?

Hadronic decays

Authors: Prof. PAUL, Stephan (Technische Universitaet Muenchen (DE)); Dr KRINNER, Fabian (Max Planck Institute for Physics, Munich)

Presenter: Dr KRINNER, Fabian (Max Planck Institute for Physics, Munich)

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