

XVth Quark Confinement and the Hadron Spectrum



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The first evidence of CP violation in the $B_s \rightarrow j/\psi \phi$ system, obtained by CMS

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The study of CP violation is critical for understanding the asymmetry between matter and antimatter in the universe. This talk presents the CP violation in $B_s^0 \rightarrow J/\psi \phi$ decays measured with the CMS detector at the LHC using Run 2 data. A full angular analysis of the decay is performed, extracting several key parameters such as the CP-violating phase, the amount of direct CP violation and differences in decay width and mass between mass eigenstates. The study employs an innovative flavour tagging approach, leveraging machine learning to improve accuracy by using information from both sides of the decay.

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