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Measurement of the CP-violating phase ϕ_s in $b \rightarrow ccs$ decays

The highly successful Standard Model (SM) of particle physics is incomplete as experimental evidence shows. Searches for physics effects not described by it are a major priority of the LHCb experiment at CERN, designed for the measurement of hadrons containing a b or a c quark. In particular, the study of CP violation in b -hadron decays provides a fundamental test of the SM predictions and represents a sensitive probe to search for physics effects beyond. Such is the measurement of the CP -violating phase ϕ_s , which arises in the interference between the amplitudes of B_s^0 mesons decaying directly, and after an oscillation via a $b \rightarrow ccs$ transition. This talk gives an overview of the measurements of ϕ_s and other important parameters in $b \rightarrow ccs$ transitions, focusing on the latest LHCb results in the decay channels $B_s^0 \rightarrow J/\psi K^+ K^-$ and $B_s^0 \rightarrow J/\psi \pi^+ \pi^-$.

Date:	Thursday 12 December
Time:	11am
Venue:	L1, Seminar Room 107, 10 College Walk, Clayton

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