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## Search for CP violation in the $B_s - \bar{B}_s$ system with LHCb

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The determination of the mixing induced CP-violating asymmetry in decays such as  $B_s^0 \rightarrow J/\psi\phi$  is one of the key goals of the LHCb experiment.

Its value is predicted to be very small in the Standard Model but can be significantly enhanced in many models of New Physics.

The steps towards a precise determination of this phase with a flavour-tagged, time-dependent, angular analysis of the decay  $B_s^0 \rightarrow J/\psi\phi$  will be presented, and first results shown from this measurement programme, using data collected in 2010 and the early months of the 2011 run. Results will also be shown, and prospects discussed, from related measurements.

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