

# CP violation in $B_s \rightarrow J/\psi \phi$ in the ATLAS experiment

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The measurement of the  $CP$ -violation and other physics parameters in the  $B_s^0 \rightarrow J/\psi(\mu^+\mu^-)\phi(K^+K^-)$  channel using data collected by the ATLAS detector from 13 TeV  $pp$  collisions at the LHC with integrated luminosity of  $80.5 \text{ fb}^{-1}$  is presented.

In addition to the  $CP$ -violating phase  $\phi_s$  and the width difference  $\Delta\Gamma_s$  between the  $B_s^0$  meson mass eigenstates, the average decay width  $\Gamma_s$  and the transversity amplitudes including corresponding strong phases are measured. The measured values are then combined with those from  $19.2 \text{ fb}^{-1}$  of 7 TeV and 8 TeV data. All measurements are in agreement with the Standard Model predictions and other LHC measurements.

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