

# The XXIX International Conference on Supersymmetry and Unification of Fundamental Interactions (SUSY 2022)



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## ATLAS measurements of CP violation and rare decay processes with beauty mesons

Tuesday 28 June 2022 16:00 (20 minutes)

The ATLAS experiment has performed measurements of  $B$ -meson rare decays proceeding via suppressed electroweak flavour changing neutral currents, and of mixing and CP violation in the neutral  $B_s^0$  meson system. This talk will focus on the latest results from the ATLAS collaboration, such as rare processes  $B_s^0 \rightarrow \mu\mu$  and  $B_d^0 \rightarrow \mu\mu$ , and CP violation in  $B_s^0 \rightarrow J/\psi \phi$  decays. In the latter, the Standard Model predicts the CP violating mixing phase,  $\phi_s$ , to be very small and its SM value is very well constrained, while in many new physics models large  $\phi_s$  values are expected. The latest measurements of  $\phi_s$  and several other parameters describing the  $B_s^0 \rightarrow J/\psi \phi$  decays will be reported.

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**Session Classification:** Flavour physics: Theory and Experiment