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

*Thursday, 7 July 2022 10:08 (17 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  $B_s$  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  $B_s^0 \rightarrow J/\psi \phi$  decays will be reported.

### In-person participation

No

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