

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

*Friday, 29 October 2021 17:20 (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  $B_s$  meson system. This talk will focus on the latest results from the ATLAS collaboration, such as rare processes  $B_s \rightarrow \mu\mu$  and  $B^0 \rightarrow \mu\mu$ , and CP violation in the  $B_s \rightarrow J/\psi \phi$  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  $B_s \rightarrow J/\psi \phi$  decays will be reported.

## Please choose the session this abstract belongs to

Particle physics

**Primary author:** ATLAS, speaker to be assigned (ATLAS)

**Presenter:** BONA, Marcella (Queen Mary University of London)

**Session Classification:** Session 2