

## B-physics @ ATLAS

*Friday, 19 January 2018 13:30 (55 minutes)*

The talk will give an overview of recent  $B$ -physics measurements at the ATLAS experiment, with a focus on the  $CP$  violation in  $B_s^0 \rightarrow J/\psi(\mu^+\mu^-)\phi(K^+K^-)$  decay channel. In the Standard Model  $CP$  violation is described by a phase in the CKM matrix. One of the manifestations of this complex phase is a phase shift between direct and mixing-mediated  $B_s$  decays producing a common final state. In the case of  $B_s^0 \rightarrow J/\psi(\mu^+\mu^-)\phi(K^+K^-)$  this phase shift is predicted to be small  $\phi_s = -0.0368 \pm 0.0018$  rad. New physics can enhance  $\phi_s$  whilst satisfying all existing constraints. Results presented in this talk are compatible with the Standard Model predictions and with other LHC measurements.

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