

Search for new physics in rare and semi-rare decays of B-mesons at ATLAS

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Collaboration

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Abstract content

Processes involving the FCNC transitions in b-hadron decays are suppressed in the SM and are sensitive to new physics. New results in the search for the rare decays of B_s and B_d into $\mu^+ \mu^-$ are presented. They are based on the full sample of data collected by ATLAS at 7 and 8 TeV collision energy. The consistency with the SM and with other available measurements is discussed. The properties of the decay of the B_d meson into $K^* \mu^+ \mu^-$ are also sensitive to the presence of New Physics in loops and has received renewed interest because of possible deviations from the standard model in this decay observed by LHCb. We present recent results obtained by ATLAS, concerning the angular distribution parameters FL , S_i and P'_i in the region $Q^2(\mu^+ \mu^-) < 6 \text{ GeV}^2$.

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