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317 Amplitude analysis of $B \rightarrow K \pi \pi \gamma$ decays at LHCb

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The photon polarisation in $b \rightarrow s\gamma$ transitions is predicted to be predominantly left handed in the Standard Model. Contributions from New Physics processes could significantly enhance the right-handed component. The $B \rightarrow K\pi\pi\gamma$ decay is a $b \rightarrow s\gamma$ transition and is sensitive to the polarisation of the photon through interference between the amplitudes describing the resonances of the $K\pi\pi$ system. We present the status of an amplitude analysis to measure the photon polarisation in $B \rightarrow K\pi\pi\gamma$ decays for the first time using data collected by the LHCb experiment between 2011 and 2018.

Primary author: BACHMAYER, Marie (EPFL - Ecole Polytechnique Federale Lausanne (CH))

Presenter: BACHMAYER, Marie (EPFL - Ecole Polytechnique Federale Lausanne (CH))

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