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## **[305] A new approach in the search for New Physics in $b \rightarrow sl+l^-$ decays**

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Recent studies of rare semileptonic decays of beauty mesons reported some intriguing discrepancies with the SM predictions, which seem to form a coherent pattern. Of particular interest are the angular observable  $P_5'$  of the  $B \rightarrow K\mu^+\mu^-$  decay and the suppression of the muon channel in the ratios of branching fractions of  $B^+ \rightarrow K^+\mu^+\mu^-$  to  $B^+ \rightarrow K^+e^+e^-$  transitions.

*The proposed research aims to perform an unbinned likelihood amplitude fit of  $B \rightarrow Kl+l^-$  decays with the full LHCb run-I/II dataset, simultaneously to the muon and electron channel. This approach intends to disentangle the hadronic-dependent part from a  $q^2$ -independent New Physics (NP) contribution in a theoretically accurate and experimentally sensitive manner, establishing eventually an evidence of NP.*

**Authors:** MAURI, Andrea (Nikhef National institute for subatomic physics (NL)); WANG, Zhenzi (Universitaet Zuerich (CH)); SILVA COUTINHO, Rafael (Universitaet Zuerich (CH)); SERRA, Nicola (Universitaet Zuerich (CH)); QUAGLIANI, Renato (Centre National de la Recherche Scientifique (FR)); ESCHLE, Jonas (Universitaet Zuerich (CH)); ATZENI, Michele (Universitaet Zuerich (CH))

**Presenter:** ATZENI, Michele (Universitaet Zuerich (CH))

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