Contribution ID: **175** Type: **Talk**

305A new approach in the search for New Physics in b⟶sl+l- decays

Tuesday, August 31, 2021 2:30 PM (15 minutes)

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 P5' of the B⟶K*μ+μ- decay and the suppression of the muon channel in the ratios of branching fractions of B+⟶K+μ+μ− to B+⟶K+e+e− transitions.
The proposed research aims to perform an unbinned likelihood amplitude fit of B⟶ K*l+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 q2-independent New Physics(NP) contribution in a theoretically accurate and experimentally sensitive manner, establishing eventually an evidence of NP.

Primary 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))

Session Classification: Nuclear, Particle- & Astrophysics

Track Classification: Nuclear, Particle- and Astrophysics (FAKT - TASK)