Contribution ID: **129** Type: **Talk**

Angular distribution of Lb –> pK-l+l- decays comprising Λ resonances with spin ≤ 5/2

Wednesday 19 July 2023 09:45 (15 minutes)

The Lb –> pK-l+l- decays are governed by the b –> sl+l- quark level transitions. Such decays received significant attention in past decade and over time showed some discrepancies with the Standard model. While analogous meson decays are well studied, Lb baryons received significantly less attention. Phenomenology of Lb FCNC decays is well explored for decays with ground state Lambda baryon and for some cases of isolated Lambda resonance. In this work we present full angular distribution for a case of several interfering Lambda resonances up to spin 5/2. We will explore full set of observables, some of which have strong sensitivity to new physics. Some of these are largely insensitive to the details of interference between resonances, while interpretation of others will require full understanding of which resonances contributes and strong phases between them. Several new observables, which are purely due to the interference between resonances, are largely insensitive to the new physics, but allow powerful tests of form-factors descriptions.

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Session Classification: Flavour

Track Classification: Flavour physics