Contribution ID: **6** Type: **not specified**

Flavorful Light Dark Matter Window From NA62 K -> π invisible

Friday, 11 July 2025 09:00 (30 minutes)

We explore the potential presence of new physics in the recent NA62 observation of the kaon decay K+ → π++E with missing energy E in the context of a dark-matter (DM) scenario that can explain the Belle II finding of enhanced rate of the b-meson decay B+ → K++E compared to the standard-model expectation, assuming that a light real scalar boson φ plays the role of DM. The DM particle is subject to significant restrictions from the observed relic abundance and from DM direct detection experiments incorporating the Migdal effect, indirect searches including that in cosmic microwave background data, and collider searches, except when its mass is between 110 MeV and 130 MeV.

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Session Classification: Plenary