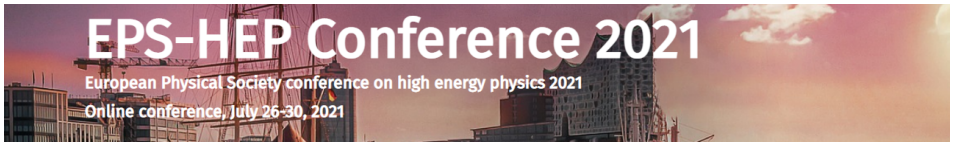

Contribution ID: **818** Type: **Parallel session talk**

Characterising darkjets: Implications of theory scenarios for experimental signatures

Tuesday 27 July 2021 10:30 (15 minutes)

Scenarios of strongly interacting dark matter, where confinement in a new non-abelian dark sector leads to composite dark matter candidate are increasingly at the focus of LHC searches. These scenarios where bound state masses are low compared to the LHC scale lead to exotic darkjet signatures such as semi-visible, emerging jets. With the example of an SU(Nd) gauge group, we present the impact of variation of number of dark flavours, colours, bound state masses, mediator lifetime as well as mediator decay mode along with other theory parameters on the properties of resulting dark jets. With these investigations, we illustrate potential strategies useful for defining inclusive darkjet searches at the LHC.

Collaboration / Activity

Theory

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Session Classification: T10: Searches for New Physics

Track Classification: Searches for New Physics