Contribution ID: **434**   Type: **Oral Presentation**

Advancing Dark-QCD searches: Model Development, Constraints, and Novel Anomaly Detection Technique

Strongly interacting dark sectors, colloquially referred to as dark-QCD, is becoming increasingly popular in the collider community, primarily because of the rich phenomenology and the novel signatures it offers. The author pioneered the first search for semi-visible jets in ATLAS, and is following that up with multiple studies focussing on other final states (arXiv:2207.01885), new generator setups to simulate the signals (WiP), new discriminating observables (arXiv:2209.14964, WiP), setting constraints on these models based on existing results (arXiv:2502.11237) and a novel use of anomaly detection algorithms (WiP) to aid finding these signatures. In the presentation, the lessons learnt from the ATLAS result will be discussed, and these work-in-progress results on model development, constraints of the models, as well anomaly detection method being proposed will be presented, essentially summarising the state-of-the art in the semi-visible jets.

Apply for student award at which level:

None

Consent on use of personal information: Abstract Submission

Yes, I ACCEPT

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Session Classification: Theoretical and Computational Physics

Track Classification: Track G - Theoretical and Computational Physics