



Run Number: 294184, Event Number: 422201571
Date: 2018-09-15 05:13:27 UTC



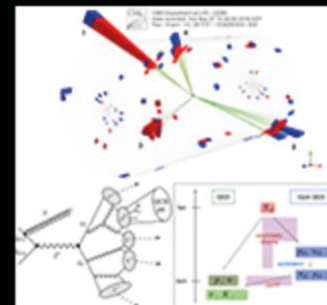
Colours in Darkness:

Towards Improved Modelling of Strongly Interacting Dark-Sector Showers

October 17 – 20, 2023



<https://indico.mitp.uni-mainz.de/event/377>



Sukanya Sinha
University of Manchester

19/10/2023



European Research Council
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Scope of the workshop

Aim to build collaboration and motivate cross-talk between the experimental and theory community dedicated towards developing and understanding the strongly interacting dark sector.

→ understanding the current status of the dark showering module within Monte Carlo generators like Pythia and Herwig, as well as establishing a set of realistic benchmark models that will drive future search strategies.

Link to a live google doc [here](#).

→ to be used as rolling minutes after each talk

→ also for guiding the open discussion sessions that are planned at the end of each day.

At the end of the workshop, we plan to have a Workshop summary report, which will then be uploaded on Zenodo. If you are interested in helping with even a small subset of the summary report, please reach out to me. Any help will be appreciated!

Programme of the Workshop

Day1: Dark showers: Theory and Generator perspective

Day2: Dark showers: Experimental perspective (Run-2 results, lessons learnt, tools/analysis techniques developed)

Day3: Dark showers: Reinterpretability/reproducibility of experimental results, and new final-state signatures

Day4: Plans for ways forward



Programme of the Workshop

Day3: Dark showers: Reinterpretability/reproducibility of experimental results, and new final-state signatures

Day4: Plans for ways forward

	Complementarity between dark matter and dark sector	<i>Mark Goodsell</i> 13:05 - 13:20
	CONTUR	<i>Jon Butterworth</i> 13:25 - 13:40
	Reinterpretation tools for searches	<i>Louie Dartmoore Corpe</i> 13:45 - 14:00
14:00	Coffee break	14:10 - 14:30
	Emerging jet probes of strongly interacting dark sectors	<i>Juliana Carrasco</i> 14:30 - 14:37
	The Exploration of Bottom-quark-philic Semi-visible Jets	<i>Wandile Nzuza</i> 14:40 - 14:47
	Tau leptons-enriched semi-visible jets at the LHC	<i>Tobias Fitschen</i> 14:50 - 14:57
15:00	Leptons lurking in semi-visible jets at the LHC	<i>Cesare Tiziano Cazzaniga</i> 15:00 - 15:07
	Set-Up for Semi-Visible Jets with Leptons	<i>Clarisse Prat</i> 15:10 - 15:17
	Coffee break	15:20 - 15:30
16:00	Open discussion session	