



Contribution ID: 80

Type: Oral Presentation

## Constraints on Dark Matter Models using current LHC Measurements

*Monday, 26 July 2021 16:00 (15 minutes)*

In an era where high energy particle physics is having to transition from a theory-driven to a data-driven approach, the traditional method of performing specific searches off of theory models may be inefficient. Contur (Constraints On New Theories Using Rivet) was designed as a means to quickly exclude BSM models based off the many LHC measurements currently contained in Rivet. Focusing on track based measurements, the sensitivity of Contur to some Dark Matter models was explored. The exclusion potential of soft unclustered energy patterns (SUEP) and different dark sector jets scenarios will be presented.

**Apply to be considered for a student ; award (Yes / No)?**

Yes

**Level for award;(Hons, MSc, PhD, N/A)?**

MSc

**Primary author:** WILSON, Danielle (University of the Witwatersrand)

**Co-author:** KAR, Deepak (University of Witwatersrand)

**Presenter:** WILSON, Danielle (University of the Witwatersrand)

**Session Classification:** Theoretical and Computational Physics

**Track Classification:** Track G - Theoretical and Computational Physics