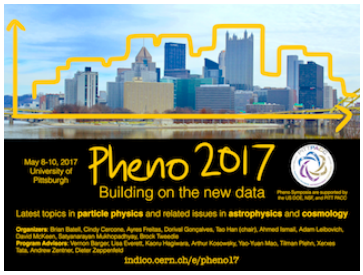

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Constraining new resonant physics with top spin polarisation information

Monday, 8 May 2017 15:15 (15 minutes)

Resonances in the ttbar mass spectrum are well-motivated signatures of new physics and can be used to discover or constrain many proposed extensions to the Standard Model. Such models often make further predictions about the nature of these resonances, for example the polarisation of the top quarks. I will present a realistic study of the improvements in sensitivity that can be made when incorporating top polarisation information in the limit setting procedure when compared to only using the mass spectrum in both the semi-leptonic and di-leptonic ttbar channels, using a Randall-Sundrum model often used for presenting results by ATLAS and CMS as a benchmark. I will show these improvements are particularly important for wide resonances and the di-leptonic channel.

Summary

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