

Journal Club: Session 13 - 27. Jan 2020

TOPIC: BSM Searches at Colliders

Material:

A: Antonio Boveia and Caterina Doglioni, Dark Matter Searches at Colliders, Ann.Rev.Nucl.Part.Sci. 68 (2018) 429-459

arXiv: 1810.12238

Topics for discussion:

- 1) For which kind of search scenarios at colliders are effective field theories (EFT) appropriate and why?**
- 2) What's not described by an EFT?**
- 3) How can measurements of the width of SM bosons (e.g. Z boson) yield hints on invisible particle production?**
- 4) What is the advantage of searching invisible particles with initial state radiation jets at hadron colliders compared to the detection of other "recoiling" particles?**
- 5) How can BSM constraints from collider searches be connected to noncollider results? What do you have to keep in mind when comparing such results?**