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Possible origin(s) of $RD(^*)$ flavor anomalies

Thursday, 6 July 2017 18:00 (15 minutes)

Three key issues pertaining to the semi-leptonic $RD(^*)$ anomalies will be addressed here:

- 1) How robust are the SM predictions?
- 2) What are the model-independent collider signature of these anomalies?
- 3) What are some of the simplest BSM explanations for these?

In answer to 1) latest information from on and off the lattice will be critically examined to question, in particular the reliability of the stated theory error.

Reg 2) It will be shown that the semi-leptonic anomalies rigorously imply unavoidable collider signatures that the LHC experimental community should ASAP vigorously pursue to confirm or refute these anomalies. Lastly, but nevertheless of considerable importance, reg 3), is the issue of what interesting, and theoretically well motivated, underlying extensions of the SM are there that could be responsible for these anomalies assuming they withstand further scrutiny and the test of time.

This talk is based in significant part on work done and in progress with Wolfgang Altmannshofer and Bhupal Dev.

Experimental Collaboration

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