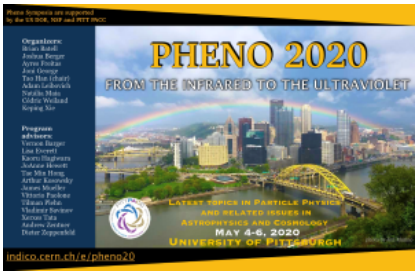

Contribution ID: **1024** Type: **Parallel Talk**

Prospects for searches for Leptoquarks with large coupling with the top quark

Tuesday 5 May 2020 17:30 (15 minutes)

The LHC search strategies for leptoquarks (LQs) that couple dominantly to a top quark are different than for the ones that couple mostly to the light quarks. In this talk, I will discuss the LHC phenomenology of the LQs that can decay to a top quark and a charged lepton giving rise to a resonance system of a boosted top quark and a high-pT lepton. I will consider all possible LQ models within the Buchmuller-Ruckl-Wyler classifications with the desired decay and present some simple phenomenological Lagrangians that are suitable for bottom-up/experimental studies but, at the same time, can cover the relevant parameter spaces. We shall see that the single production of top-philic LQs in association with a charged lepton could be significant for order one LQ-*t*-*l* coupling(s) in certain scenarios. I will also discuss a strategy of selecting events with at least one hadronic-top and two high-pT leptons. This can significantly enhance their discovery prospects at the LHC, especially in the high-mass region where the single productions become more prominent.

Summary

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