



Southeastern Section

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currently an undergraduate
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Yes, ORAL TALK competition

Generally, all abstracts are accepted into the program. Please register promptly at the start of the registration period.

Title: New Mechanisms for Asymmetric Leptoquark Pair Production at
Hadron Colliders

Abstract Body: In this presentation, we briefly describe the phenomenology behind a novel method for pair producing asymmetric leptoquarks (LQ's), in which the final state LQ's are not charge conjugates of each other. Then, we outline the general process to for producing samples from MadGraph5 and Pythia8 with some specifics to the ATLAS experiment within CERN and the

2ISS+1tau working group. After this, we detail the fixing, updating, and converting of the previous analysis code that was used on older ntuples that were prepared for a ttH signal. We then test this updated code on the same ttH signal to ensure that all of the parameters are working as expected. In doing this, we find better analysis compared to the previous analysis when considering only statistics and not systematics. Next steps include finishing the full production of the LQ signal samples as well as fine tuning analysis and model parameters.

Funding Acknowledgement:

I would like to acknowledge the National Science Foundation under Grants No. PHY-2112025, PHY-2412071, and PHY-2243608.

Publications Reference:

Manuscript in preparation.

Newsworthy Research? No

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Yes

Presentation Type: Oral

Sorting Category: 15.0 Nuclear and Particle Physics

Category Type: Experimental/Theoretical

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