

# SAIP2014



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## Exploring the tensor structure of the Higgs Boson couplings

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### Abstract :

The study of Higgs production in  $e+e-$  collisions presents us with an avenue for studying Higgs to  $WW$  coupling in the  $t$ -channel. Our understanding of the tensor structure of the Higgs boson is furthered by learning the phenomenology of how it couples to the  $WW$  pair in these reactions. This can be done by applying effective coupling strength constants to an effective Lagrangian as Beyond Standard Model (BSM) terms and performing Monte Carlo studies with these terms present. We can then extract meaningful information from these resulting hypotheses and use a statistical analysis to determine the cross section which a detector would need in order to fully realise these BSM parameters.

### Award :

Yes

### Level :

Hons

### Supervisor :

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### Paper :

Yes

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