## Particle Physics on the Plains 2018



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## **Contribution of Scalar Singlet and Higher Dimension Operator in Higgs Physics**

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Standard model is successful in explaining Higgs physics, however new physics beyond the standard model may yet be expected. We study how the inclusion of real singlet scalar and dimension 5 operators effect SM Higgs physics. We do this by studying the deviations of the total width and branching ratios of the Higgs from the SM predictions. We also study the limit on scalar mixing angle and Wilson coefficients by a fit to the combined ATLAS/CMS gluon fusion signal strength for the Higgs production as well as by a fit to the combined ATLAS/CMS signal strengths for the different Higgs decay channels.

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