## **PHENIICS Doctoral School Days**



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## Measurement of Higgs boson couplings in the diphoton decay channel with the ATLAS experiment

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The run 2 of the LHC starts an era of precision measurement in the Higgs sector which may be a portal to Beyond Standard Model physics.

To be sensitive to BSM, an improvement of the systematics is necessary.

The final step of the electron energy correction, which is part of the dominant experimental uncertainties, uses a data driven technique to calibrate the energy of electrons using Z decay.

Run 2 prerecommandations were derived using reprocessed 8TeV data and early recommandations were computed with the first 13TeV data.

Coupling are measured using a likelihood procedure on the data.

30% precision was achieved in run 1 and a sensitivity study is ongoing for run 2.

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