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Type: **Talk**

## CMS Highlights

*Monday 7 September 2020 09:30 (30 minutes)*

During the LHC Run 2, the CMS experiment recorded an integrated luminosity of proton-proton collision data corresponding to about 140 fb<sup>-1</sup> at a center of mass energy of 13 TeV.

With such a large volume of dataset at an unprecedented energy, CMS has updated many physics searches. Direct searches for new particles predicted by theories beyond the Standard Model (SM) have been pursued, touching unexplored phase-space regions; the precision on various Standard Model measurements has substantially improved, thus making the SM a more and more powerful tool to search for new physics.

Higgs boson properties have been measured in the di-photon channel with highest precision; CP and anomalous couplings of the Higgs boson have been probed in the di-tau and 4-leptons final states. Moreover, for the first time, we observed the decay of the Higgs boson in opposite charged muon pairs.

The features of all the mentioned searches will be reported, together with a selection of the most recent results on top quark, B-Physics and new physics searches.

The status of the CMS detector and reconstruction algorithms in Run2 will be briefly described and the prospects and ongoing activities for next LHC runs will be discussed.

### Is this abstract from experiment?

Yes

### Internet talk

Yes

### Name of experiment and experimental site

CMS

### Is the speaker for that presentation defined?

Yes

### Details

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