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Towards the first observation of four top quark production in multilepton final states with the CMS experiment

Four top quark production has been on the horizon since the end of LHC Run 2. Over the past few years, the process has been in the spotlight due to the continuously improving sensitivity of the LHC experiments and its rich phenomenology. The latest result of the CMS Collaboration on four top quark production in the same-sign dilepton and multilepton final states is presented. This new result uses the the full Run 2 data collected at CMS and takes advantage of improvements in object reconstruction and identification techniques, as well as an improved analysis strategy to reach the highest sensitivity to four top quark production to date.

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