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**Alignment of the CMS Muon System with muons from pp collisions at the LHC** AYSEN TATARINOV, Texas A&M University, CMS COLLABORATION — In the Compact Muon Solenoid (CMS) Experiment, muon detection accomplished by Muon system which is comprised of 250 Drift Tube (DT) and 468 Cathode Strip (CSC) Chambers. These detectors identify muons, provide a fast muon trigger, and give a measurement of the muon trajectory improving momentum resolution from the central CMS silicon tracker. Performance of the Muon system depends on precise knowledge of the positions of the tracking elements relative to one another and relative to the silicon tracker. We present techniques to align the Muon system elements with high precision using tracks from pp collisions at the LHC and measure the precision of the alignment procedure with the existing data recorded during 2011 year.

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