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First reconstruction results on the alignment of muon endcap chambers in the CMS experiment SAMIR GURAGAIN, Florida Tech, Dept. of Physics, Melbourne, Florida, GYONGYI BAKSAY, MARCUS HOHLMANN, Florida Tech, US CMS COLLABORATION — The muon endcaps in the Compact Muon Solenoid (CMS) experiment at the Large Hadron Collider are being aligned by a hardware system that employs analog and optical sensors. The system is now fully instrumented with optical 2-D sensors based on linear CCDs and illuminated by cross hair lasers in 15 m long Straight Line Monitors across the disks in both muon endcaps. Analog sensors such as R-sensors, Z-sensors, proximity sensors, and inclinometers are also used to align the muon endcap system for the first LHC run expected early next year. We briefly present an overview of the alignment system and focus on first results on the reconstruction of chamber positions and orientations using data taken during the CMS magnet test in 2006 and during commissioning in 2007. Reconstructed positions are compared against independent results from photogrammetry and survey analysis under field-off conditions.

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