

Tile Module Assembly for the CMS High Granularity Calorimeter at Fermilab

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In the HL-LHC era, the High Granularity Calorimeter (HGCAL) will replace the existing calorimeter endcaps of the CMS detector. The HGCAL is the first 5D imaging calorimeter to be used in a collider physics experiment, designed to withstand radiation and handle large pileup through the full operation of the HL-LHC. The HGCAL will be constructed with radiation-hard silicon sensors in the layers closest to the p-p interaction point and scintillator tile modules based on SiPM-on-Tile technology in the farther layers. Around 2000 of these tile modules will be assembled at Fermilab, corresponding to about half of the detector. In this talk, I will discuss the construction and development of the pick-and-place machines utilized to achieve this assembly, other related assembly efforts at Fermilab, and plans for quality control of completed modules during production.

[in person]

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