

Silicon module assembly and QA/QC for HGICAL upgrade

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The CMS collaboration is designing a High Granularity Calorimeter (HGICAL) to replace the existing endcap calorimeter to face the 10-fold increase in integrated luminosity of LHC. The IHEP team is participating in the HGICAL upgrading project as one of six MACs worldwide, making over 5,000 silicon modules in total. A silicon laboratory has been constructed and the quality control procedures based on assembly process has been developed. As of July 2022, the IHEP team has successfully produced seven modules and passed the acceptance. This report will introduce the status of the lab, the assembly procedures, the quality control methods and the noise test of silicon modules.

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