

2S Modules for the Phase-2 Upgrade of the CMS Tracker

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An upgrade program is planned for the LHC to increase the instantaneous luminosity up to $5 \times 10^{34} / \text{cm}^2/\text{s}$ to reach an integrated luminosity of 3000/fb. The CMS experiment will be equipped with an entire new tracking detector in the so-called Phase-2 Upgrade, when LHC will reach the high luminosity phase, HL-LHC. The new tracking detector must be able to fully exploit the demanding operation condition with a high number of pile-up events, withstand $1.5 \times 10^{15} \text{ n}_{\text{eq}}/\text{cm}^2$ and in addition will have the capability to deliver Level-1 trigger information. The poster shows the concept of so-called 2S modules of the Outer Tracker with two close-by silicon strips sensors able to discriminate high p_{t} particles from low p_{t} particles already on module level. The detector components will be described and the necessary production steps and quality checks during the construction phase will be shown.

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