

Qualification of the CMS pixel readout chip for the phase 1 upgrade

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For the phase 1 upgrade of the CMS experiment the front end electronics of the pixel detector will be replaced to improve the readout efficiency at high luminosity. The redesign of the readout chip that is bump-bonded to the silicon sensor is an essential part of this upgrade. The first prototype versions of the new readout chip have been designed and produced. The results of the complete qualification and calibration of the new chip similar to the one done prior to the installation of the current detector will be presented. The results of the high rate tests performed with an intense x-ray source specific to the upgraded chip will be shown as well.

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