

Abstract Submitted
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CMS Forward Pixels Assembly and Quality Control¹ ARTUR APRESYAN, GINO BOLLA, DANIELA BORTOLETTO, PETRA MERKEL, IAN SHIPSEY, Purdue University, IN 47907 — The CMS pixel detector at the LHC will consist of two barrel layers and two end disks in the forward and backward direction. The end disks contain ~ 800 silicon detector modules called plaquettes for a total of ~ 18 million $100 \times 150 \mu\text{m}$ pixels. Each plaquette is composed of a silicon sensor bump-bonded to custom-made readout electronics mounted on a high density interconnect. We present the automated procedures developed for assembly quality control which are sensitive to missing bump-bonds. We also discuss the module performance optimization, such as the threshold equalization among all pixels on a chip, which is necessary for physics data taking.

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