

## Test beam results of the CMS 2S pT-module prototypes using the CBC2 read-out chip

For the High Luminosity LHC (HL-LHC), a major upgrade is foreseen for the CMS experiment. In its Phase II, the accelerator will achieve luminosities up to  $\sim 5 \times 10^{34} \text{ cm}^{-2}\text{s}^{-1}$ . To cope with the increased rates and occupancies, CMS replaces the current tracker with an entirely new system which is able to withstand the increased radiation corresponding to  $\sim 3000 \text{ fb}^{-1}$  of integrated luminosity and resolve  $\sim 200$  collisions per bunch crossing while being able to provide information to the first level trigger and maintain the excellent tracking performance. It is foreseen that the future outer tracker pT modules provide trigger information by means of an on-board pT discrimination logic. To achieve this, a new front-end readout chip, the so-called CBC, is under development in 130 nm CMOS technology. The results of the first test beam of the double strip layer 2S pT-module prototype using the CBC chip and future outlook will be presented.

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