

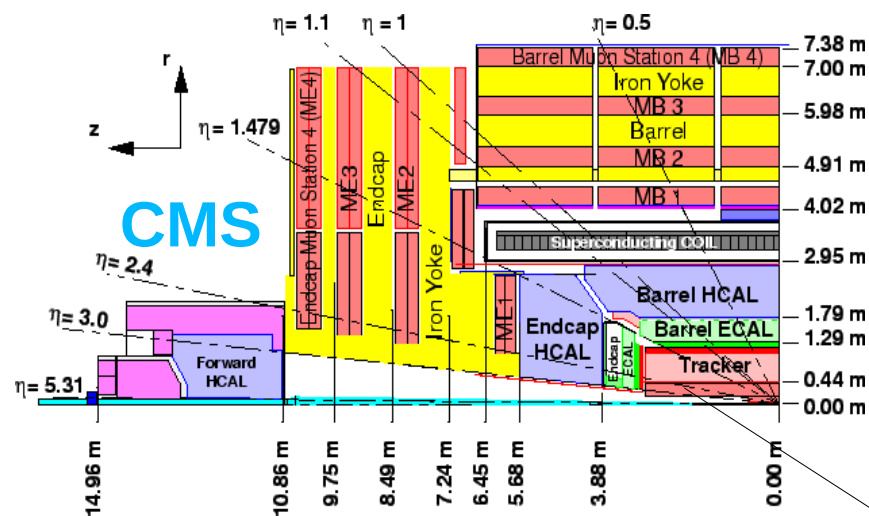
A new on-line luminometer and beam conditions monitor using single crystal diamond sensors.



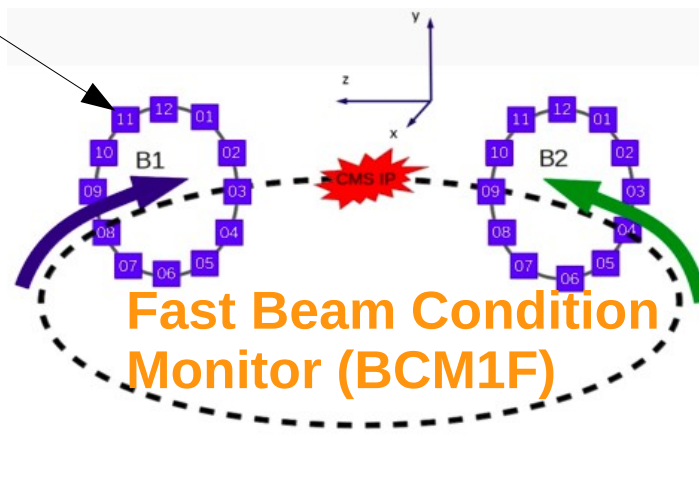
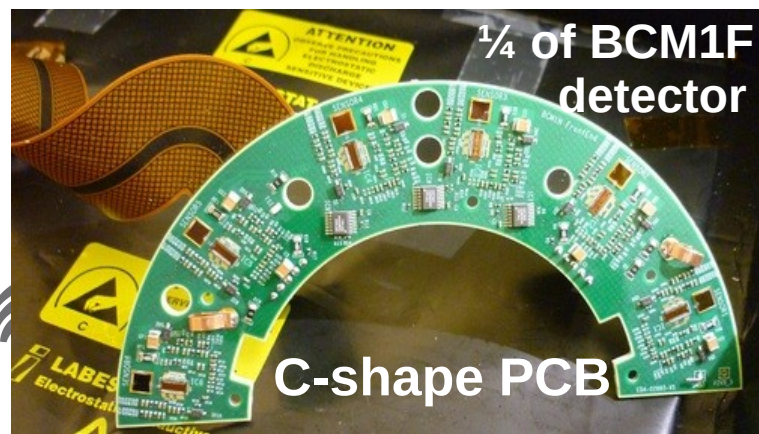
Olena Karacheban

on behalf of CMS Collaboration, CMS BRIL project

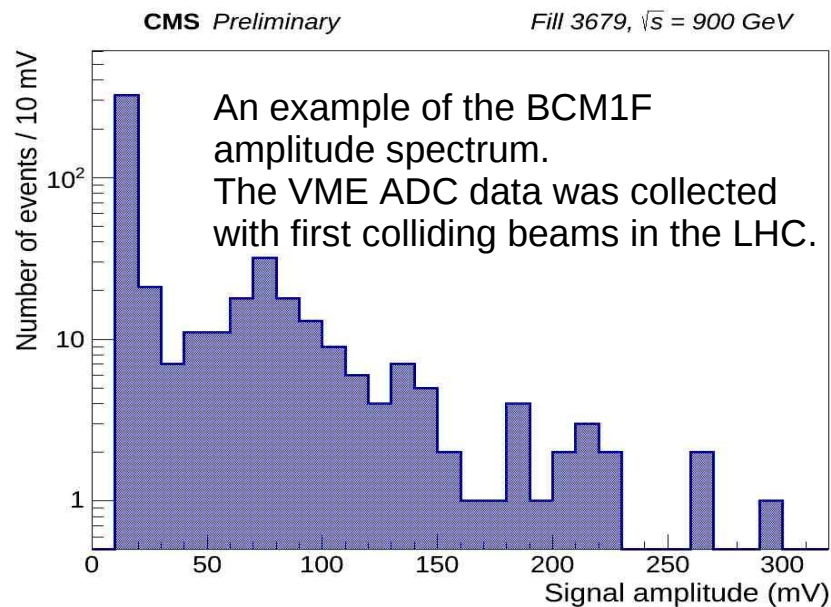
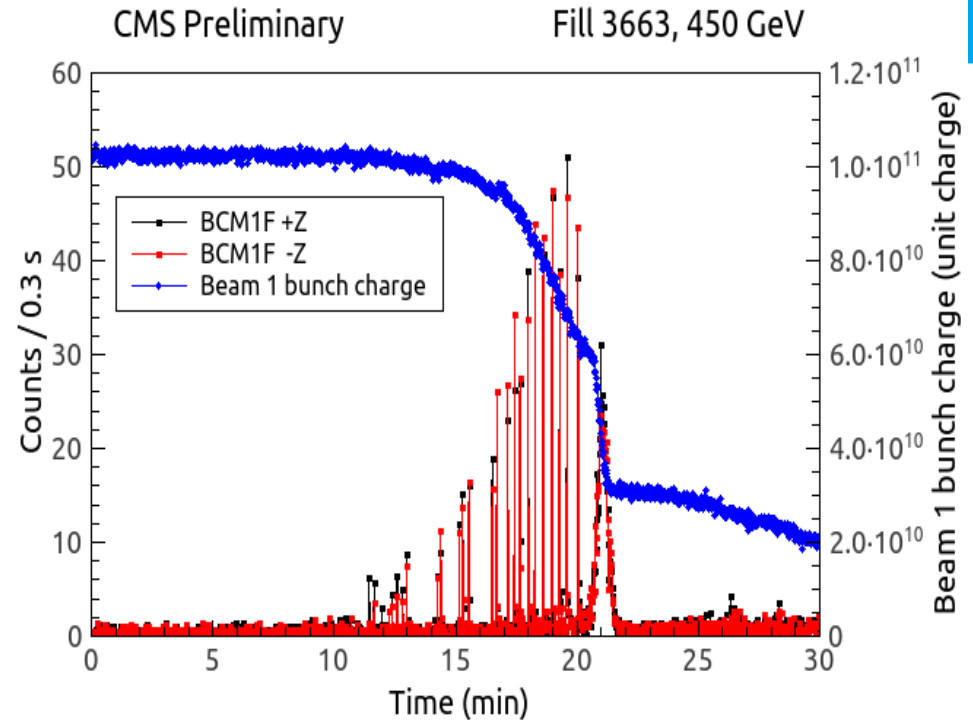
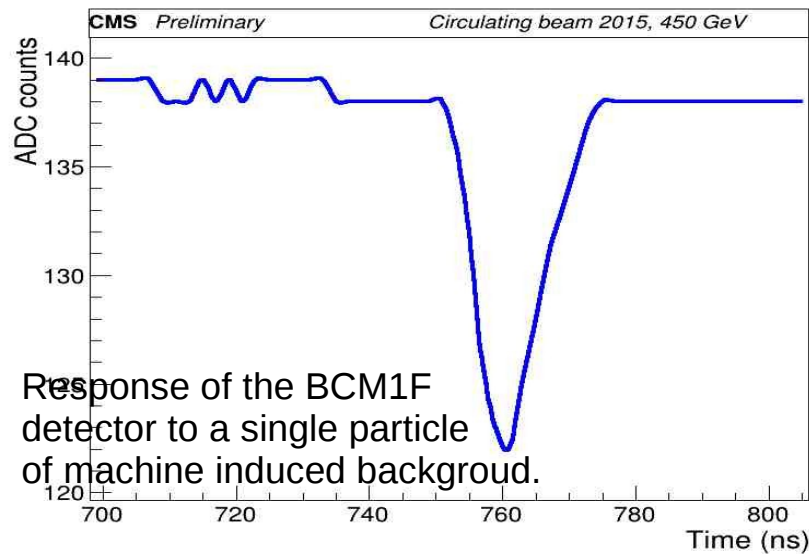
13th Pisa Meeting on Advanced Detectors, La Biodola, Italy, 24-30 May 2015



- > $R = 6.5 \text{ cm}$; $z = \pm 1.8 \text{ m}$.
- > position at maximum time difference between incoming machine induced background particles and outgoing collision products of 12.5 ns
- > 12 sCVD diamond sensors on each side, with two pads metallization for each diamond ($2.25 \times 4.5 \text{ mm}^2$)



Successful operation of Fast Beam Condition Monitor in 2015



This is an illustrative plot. The BCM1F detector counting rates during a beam loss. The beam intensity as a function of time is shown in blue. The count rates of the BCM1F detectors are shown in red and black. At the time when the beam loss starts the count rates of BCM1F detectors are rapidly growing.

