Hit rates for BCM1F sensors

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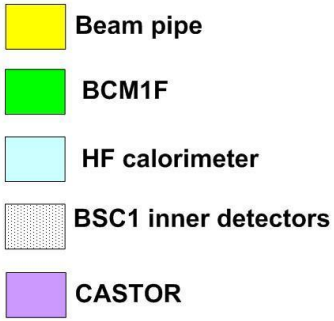
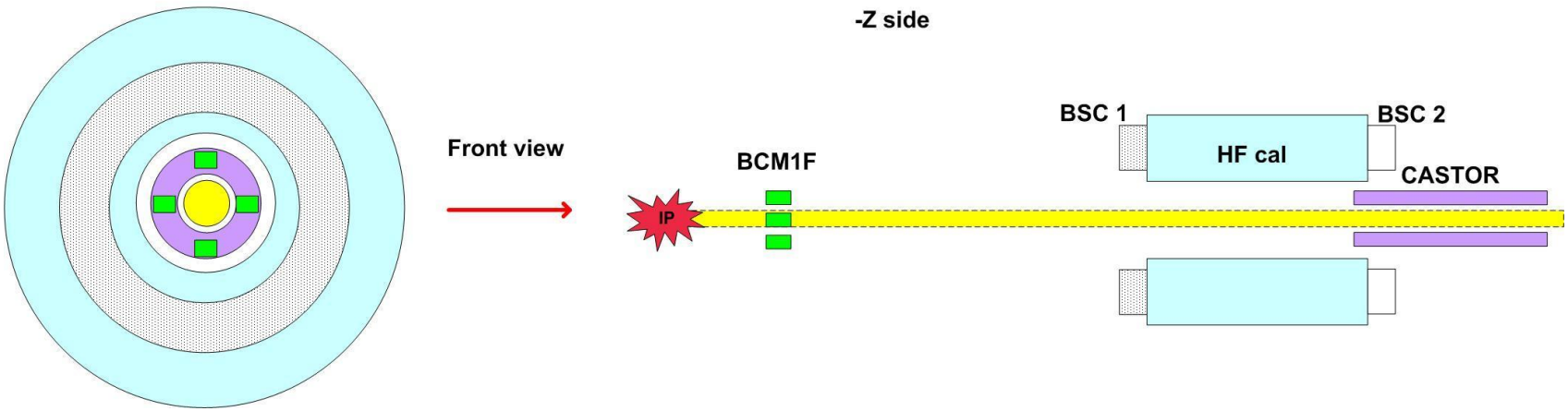
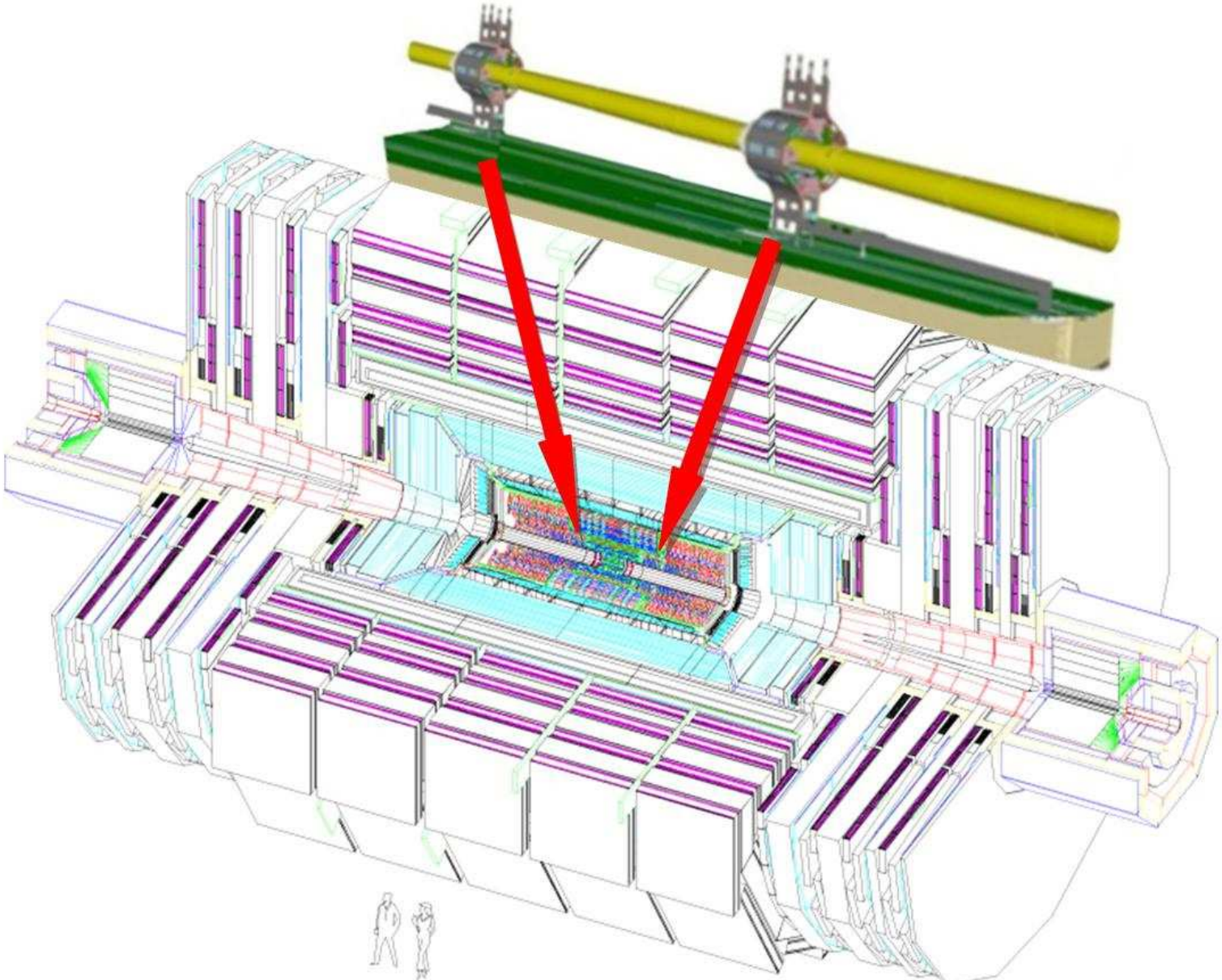
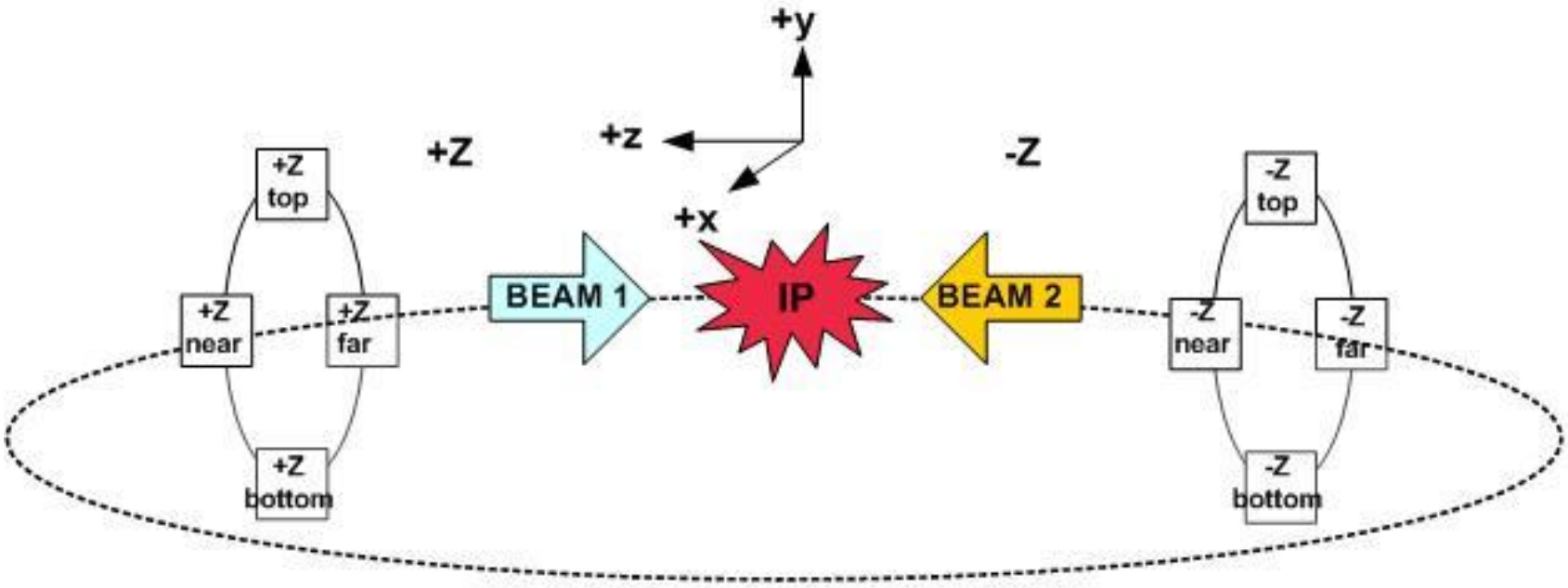
BCM1F - part of Radiation Monitoring system in CMS.
Designed for detecting beam background and collision products.
8 sensors



Subdetector	Distance to IP	Inner diameter	Outer diameter
BCM1F	1.8m	~100mm	~200mm
BSC1	10.9m	415.75mm	880mm
HF	14.4m	250mm	
CASTOR	14.38	~80	350mm




Compact Muon Solenoid

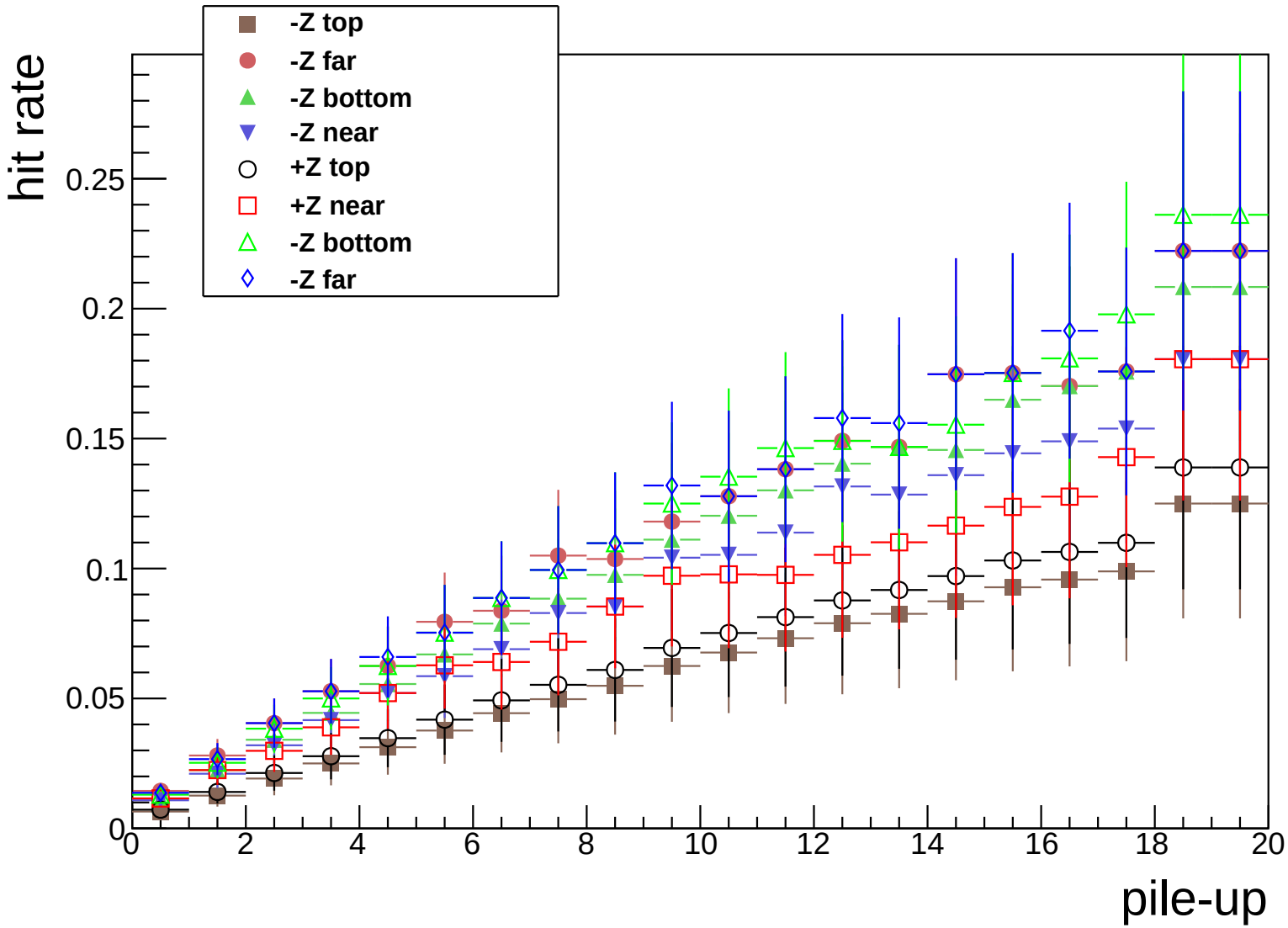


I'm generating pp collisions using FOCUS (FLUKA for CMS users) - only charged particles

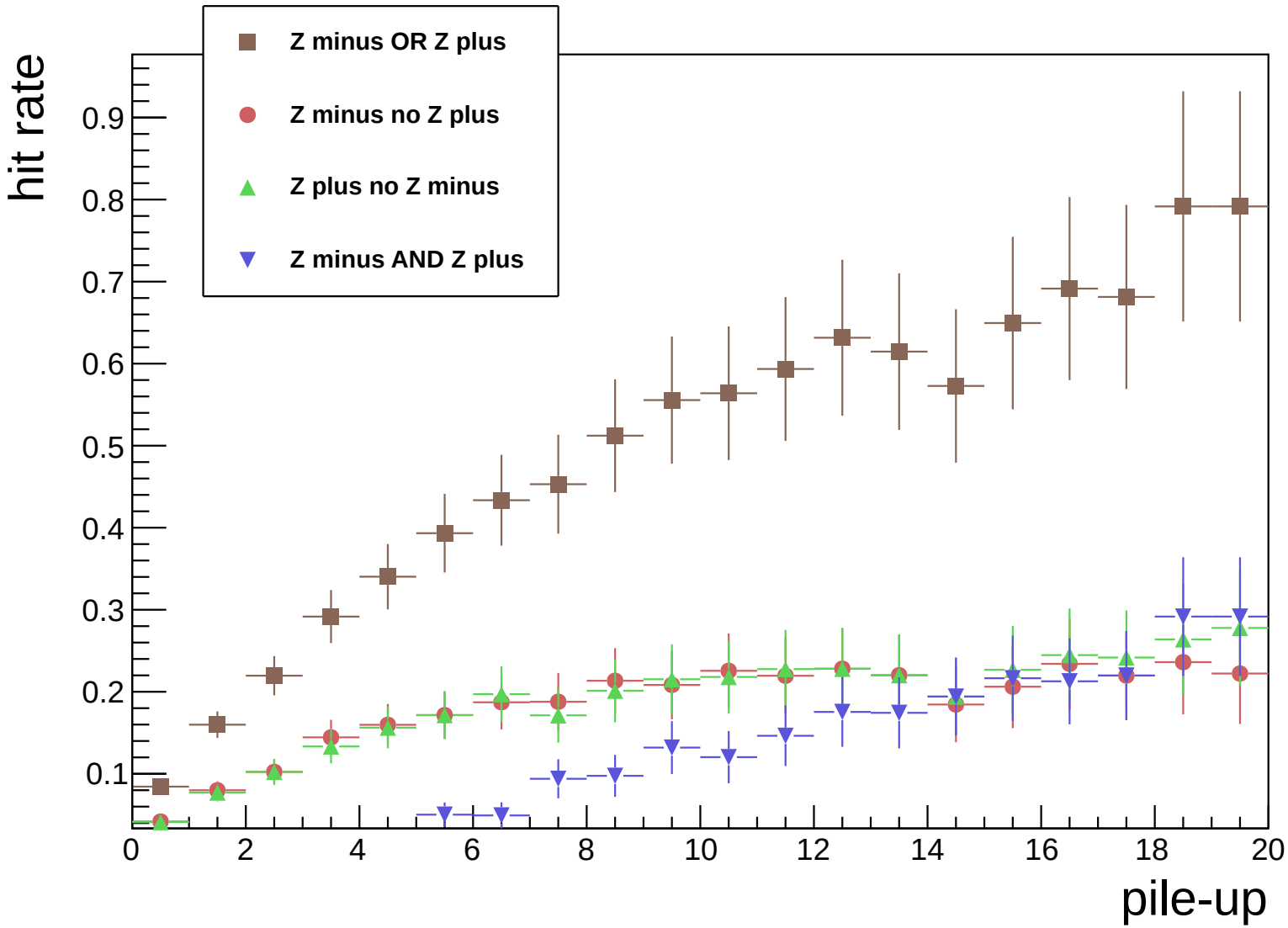
Count how often generated particles pass through each of the sensor $\rightarrow$ hit rates

1 event - *n* pp collisions
Pile-up - number of pp collisions in an event minus 1
e.g. n = 5 $\rightarrow$ pile-up = 4

Results for individual sensors



Results for sensor combinations



to do

- fix the dip problem
- optimise code for higher pile-up values
- calculate luminosities for different pile-up