

BCM Update

Mike & Shujie

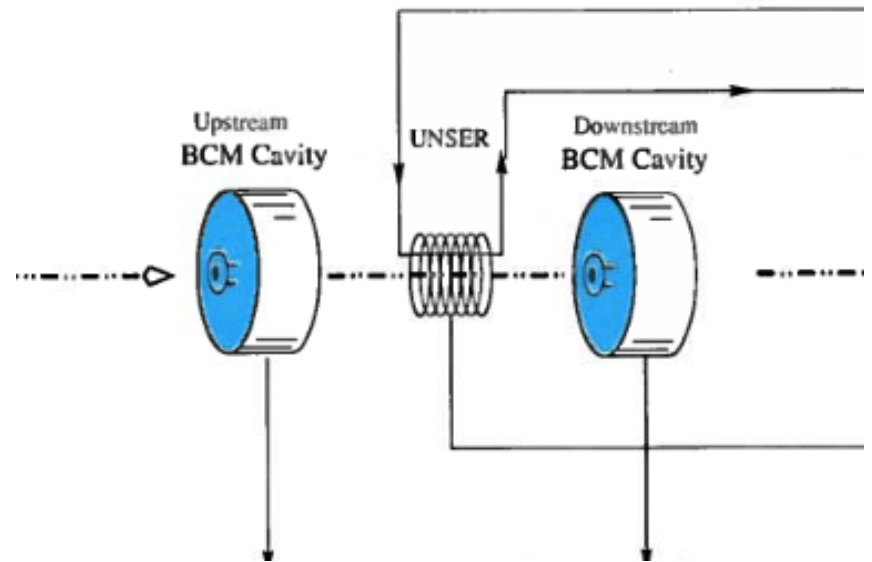
Assistance from : Thir Gautman and
Bishnu Karki

Overview

- In order to calibrate the BCMs, first need to calibrate the Unser
- The Unser cannot be used for continuous monitoring (drifts on the order of minutes)
 - Unser calibration – provides an absolute reference
 - Is then used to calibrate BCMs, which are used for continuous monitoring during the experiment
- Prior to the experiment (Beam Off)
 - Pass known current through a wire inside, ramping current up (similar to the BCM procedure)
 - Results in a gain factor for the Unser

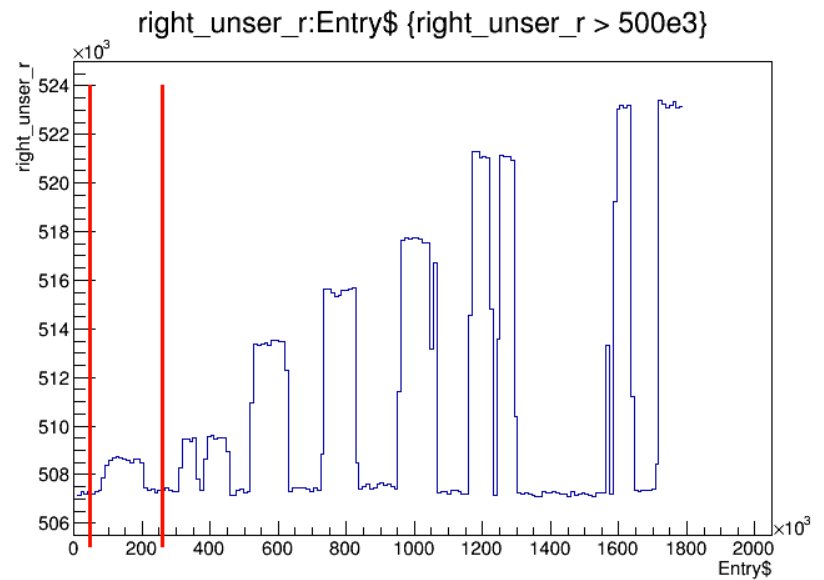
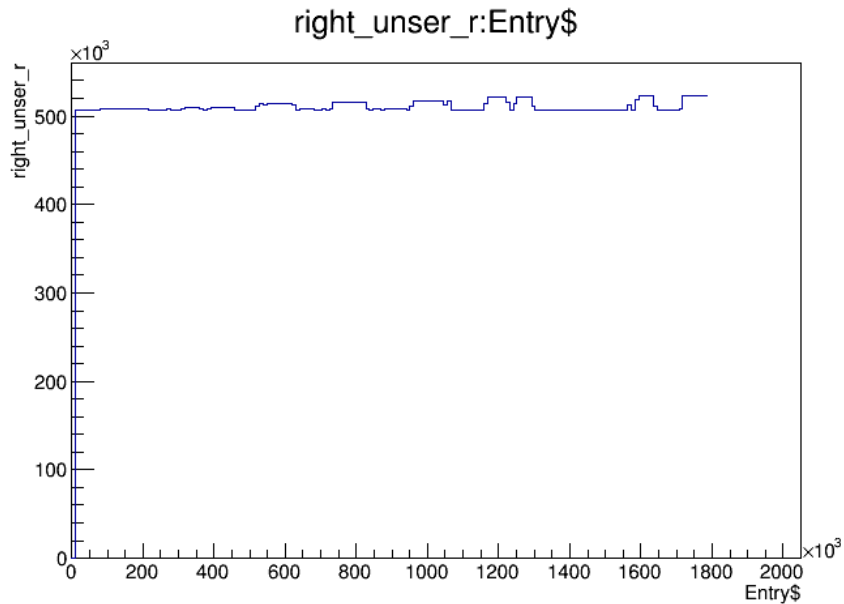
BCM Calibration

- Determines the gain and the offset of the BCM receivers which are used when determining the charge
- Gain and offset
 - Linear fit of I_{unser} vs. BCM frequency



Unser Current

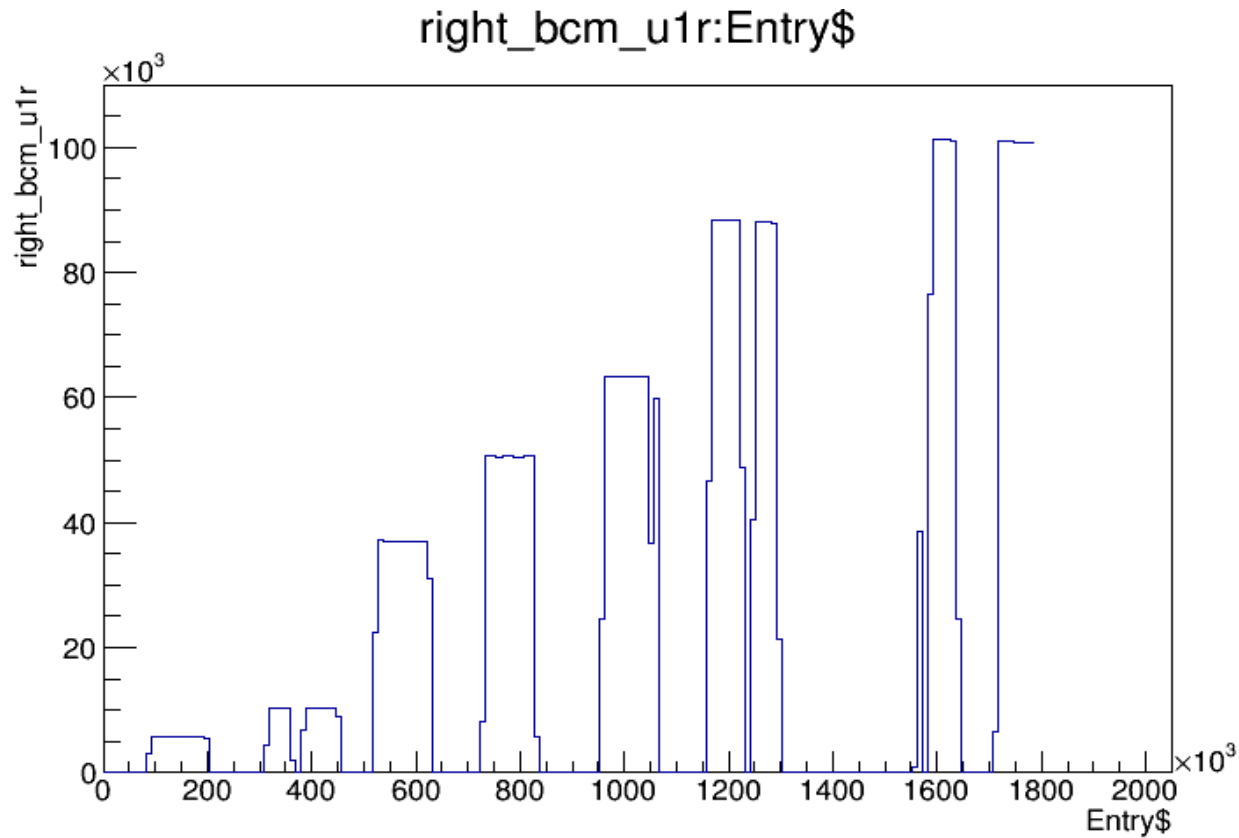
BCM Calibration run : 22790



Average between “Zero” values (red) to subtract the pedestal and get the Unser frequency

$$I_{\text{unser}} = g * f_{\text{freq}}$$

BCM frequency



BCM's have no (or very small pedestal)

More to come...

- I_{unser} vs. BCM_{freq} to determine the gain and offset of each BCM receiver
- Working on analyzing BCM calibration run to compare with Thir's result (shown on left)

