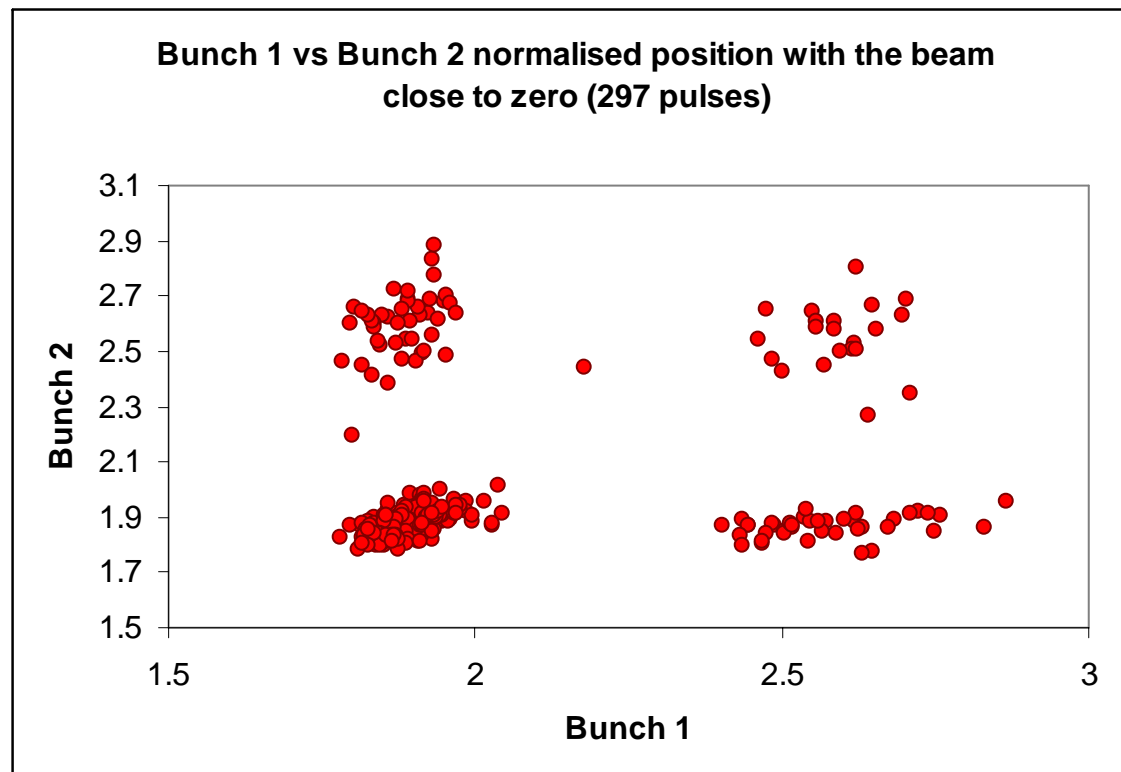
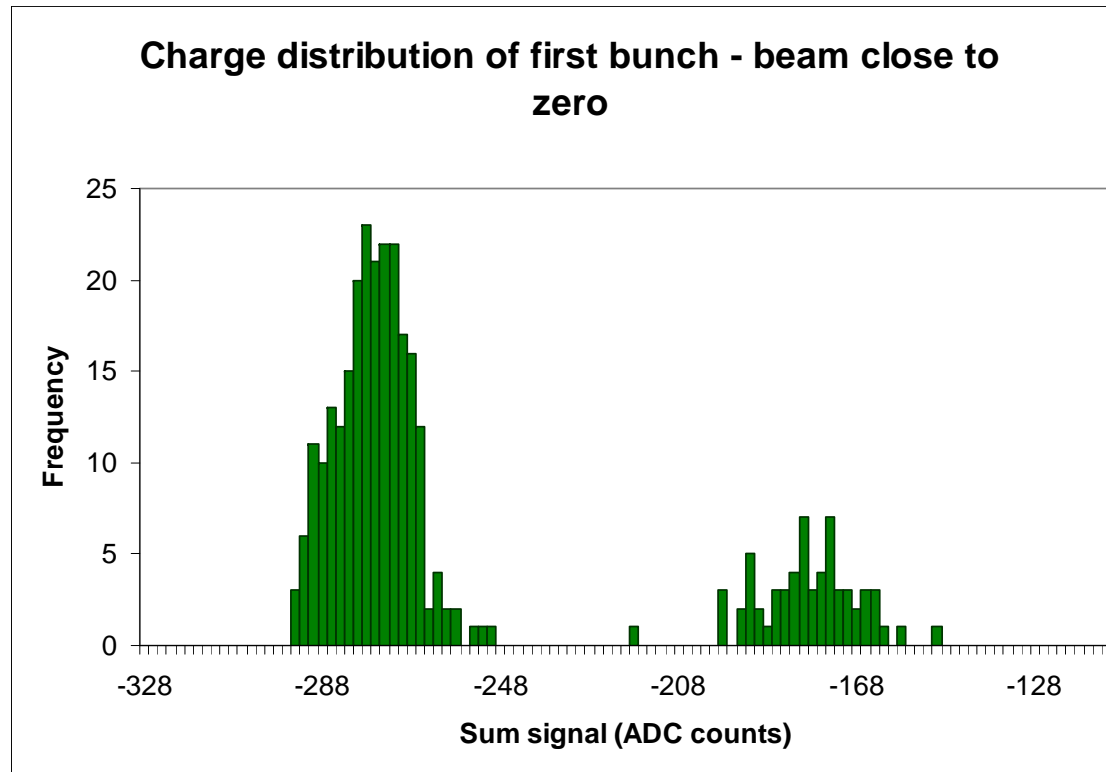


# December jitter distributions

- Last week: structure seen in correlation plots
- Repeated analysis with smaller dataset, beam close to zero
- Normalised position jitter:

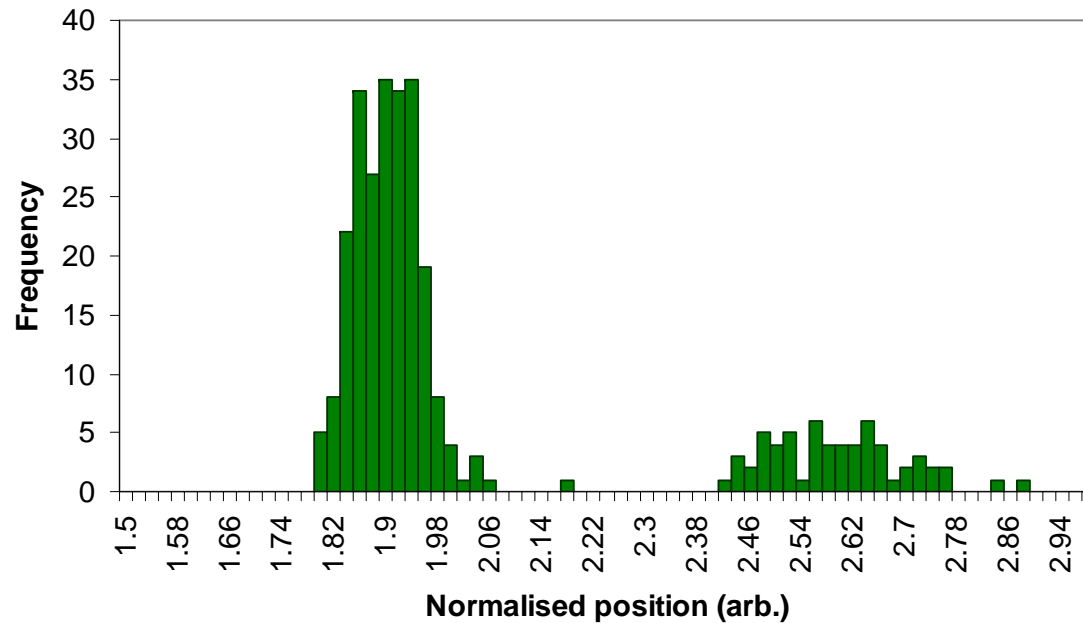


- Structure due to two-state charge fluctuation:

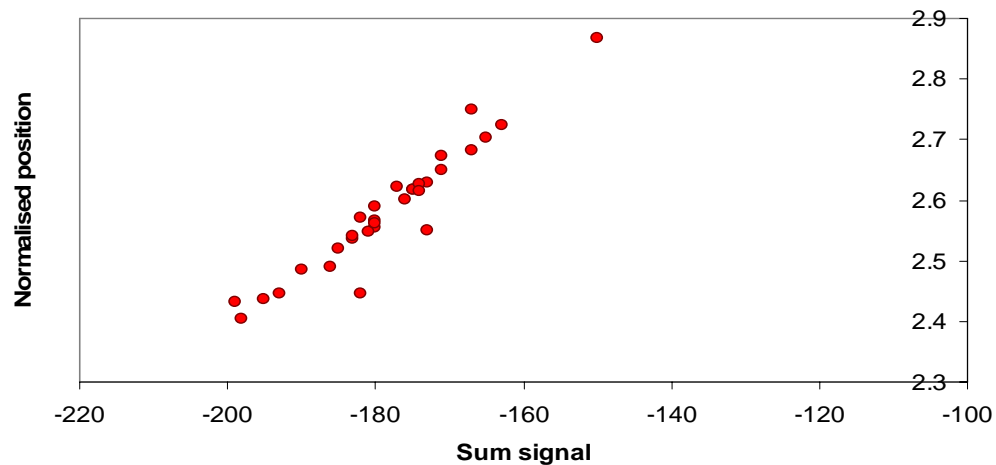


- This produces corresponding fluctuation in normalised position due to optics
- Similar for bunch 2, hence 4-state correlation plots

Normalised position distribution of first bunch -  
beam close to zero



Linearity of normalised position shift with respect to  
charge



- Relationship between charge fluctuations and position jumps linear
- ZV7X dipole?

- Unsure of origin of two-state charge fluctuations
- Look for correlations within each state
- Coefficients below:

- **No significant correlation!**

	Bunch 1 Low	Bunch 1 High
Bunch 2 Low	0.40	0.39
Bunch 2 High	0.01	0.01