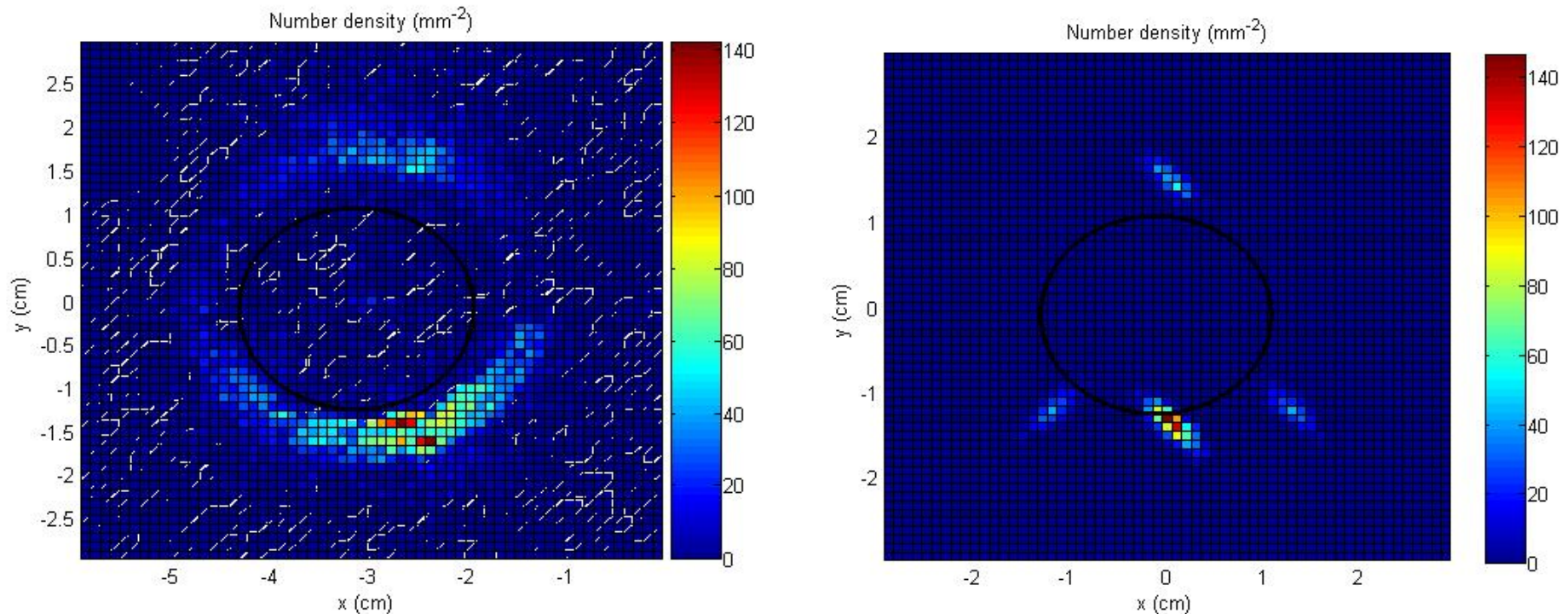


At ESA we had a spot size σ_x 2100 μm and σ_y 700 μm . It was positioned at various radii either directed at a stripline or inbetween two striplines. Currents were of the order $5e6$ electrons per bunch.

How can I scale to ILC conditions?

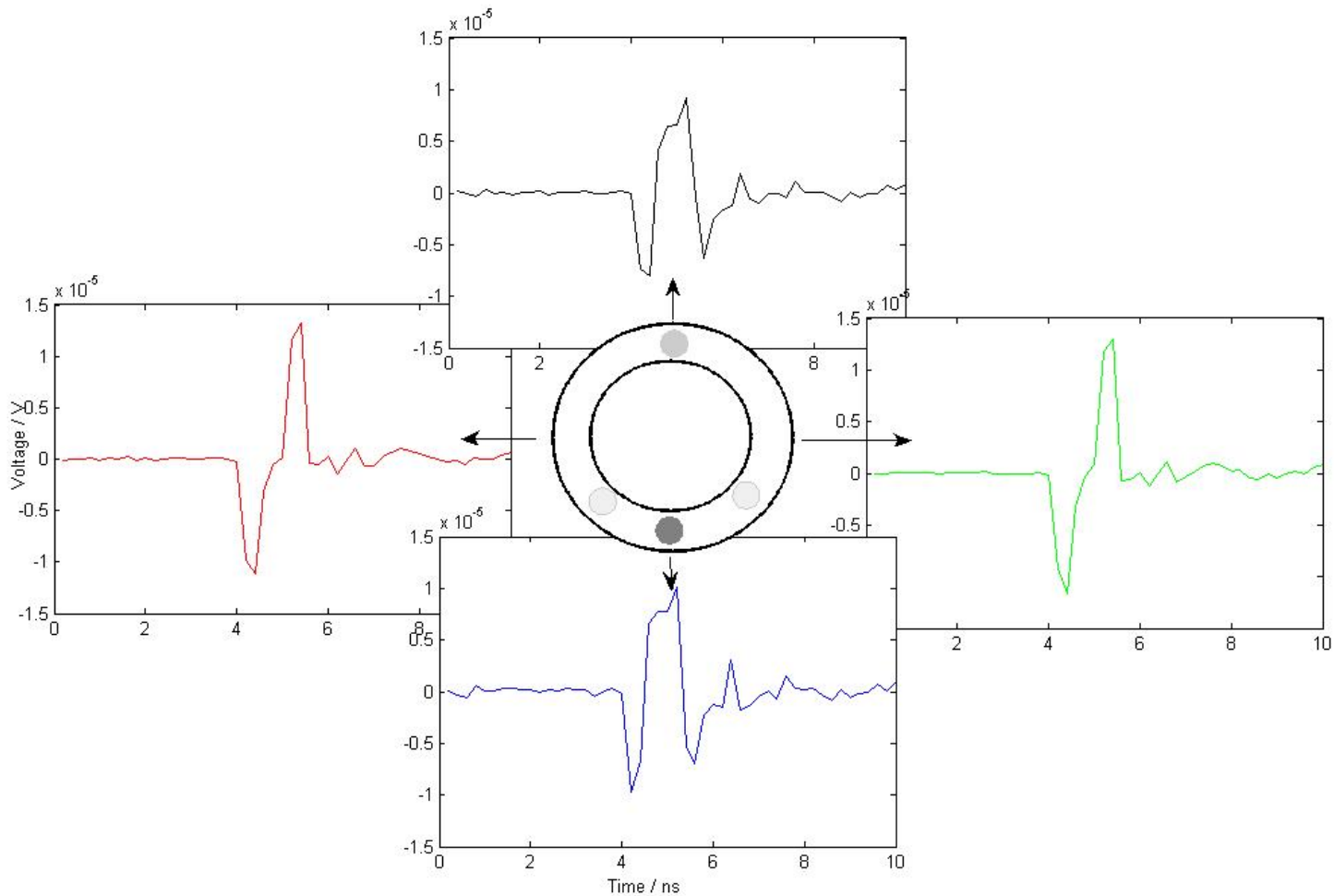
Suggestion: Take ESA signals. Scale to match the number density of ESA beam with appropriate patch on Low Z mask in ILC. Superimpose the signals from different ESA runs (or the same run rotated) to build up complete picture.



This way, I can build up a picture of the top, bottom and side strips at ILC.

i.e. A stripline signal is made from the ESA signal of four striplines appropriately scaled to replicate the scenario shown in the second picture in slide one.

Shown here are the top, bottom and side strips for that scenario:



Now I have constructed this, I can look at the difference between the top and bottom striplines.

On the right is the difference. On the left I have also plotted a stripline signal to compare the duration of the signal.

From here I hope to be able to do calculations for what effect the noise has on the position measurement. It appears to be five orders of magnitude below what will be a problem though. I am planning to adopt a “worst case scenario” approach next.

