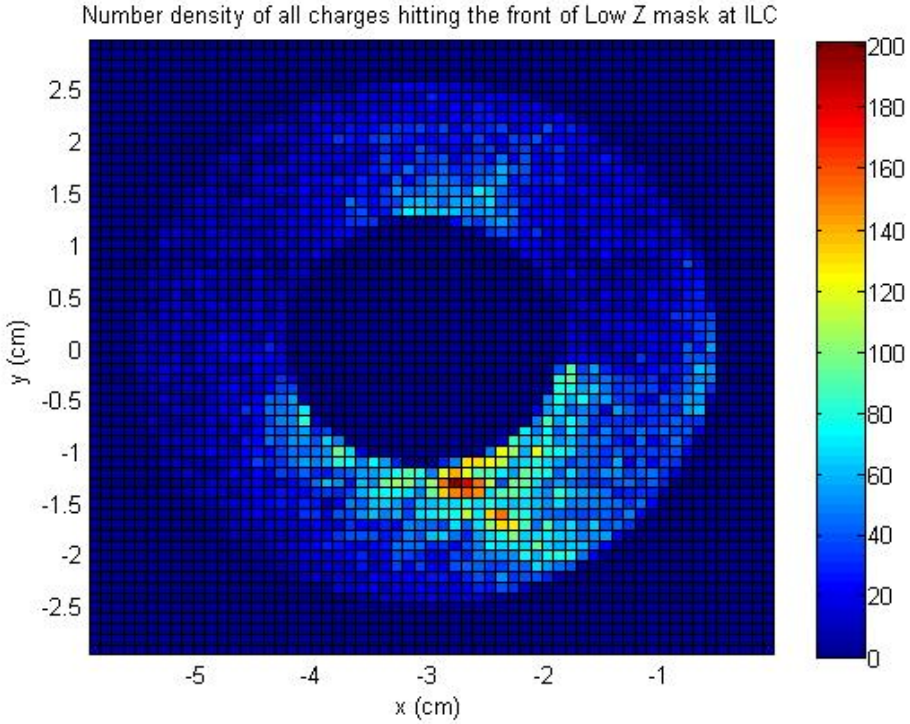
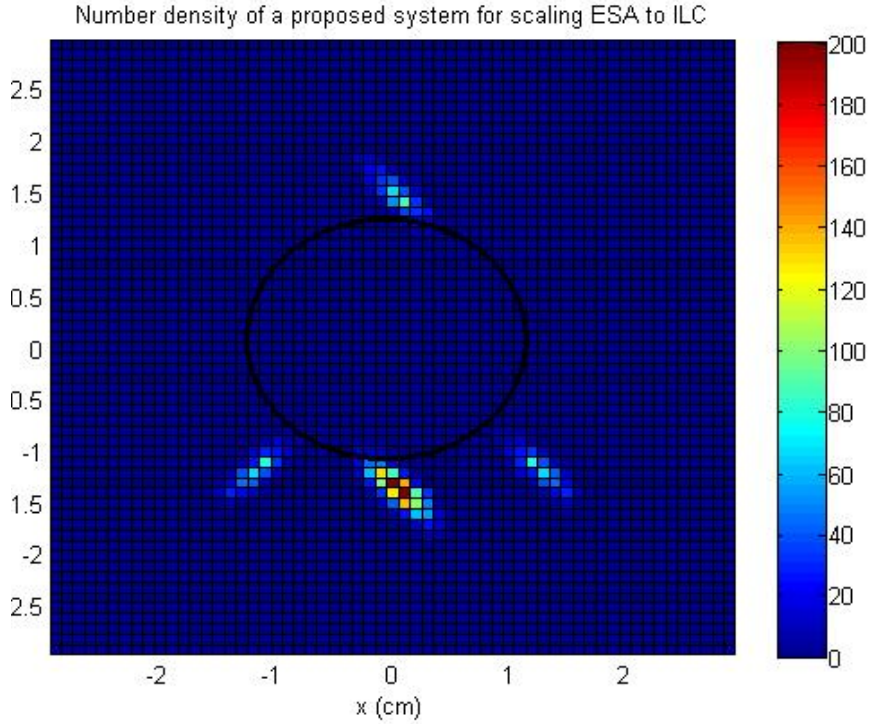
At ESA we had a spot size sigma x 2100um and sigma y 700um. It was positioned at various radii either directed at a stripline or inbetween two striplines. Currents were of the order 5e6 electrons per bunch.

How can I scale to ILC conditions?

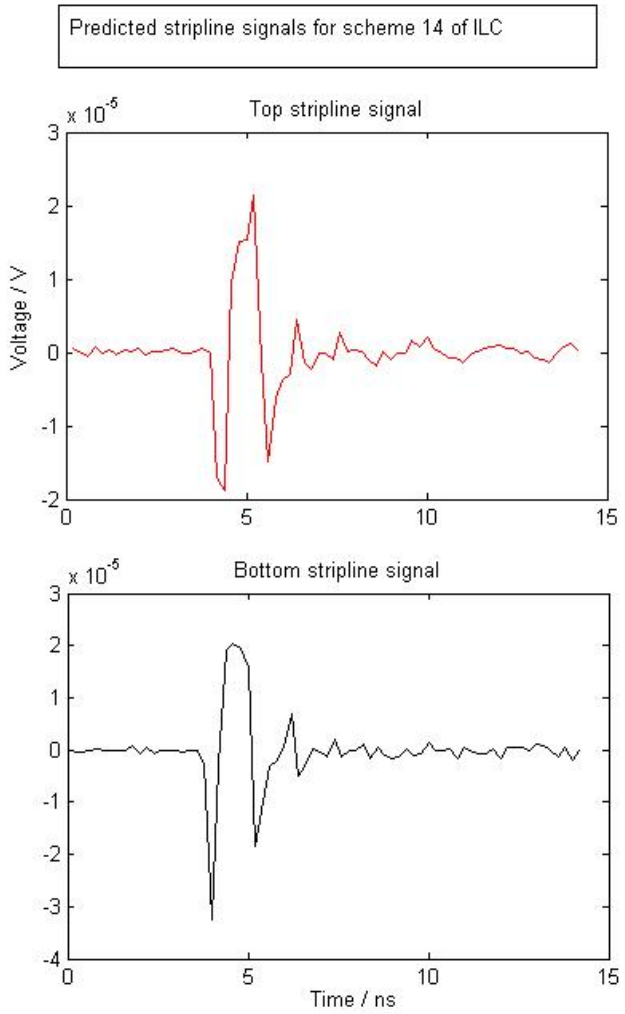
1. Match Number Density of charges
2. Match Number of charges – NEW

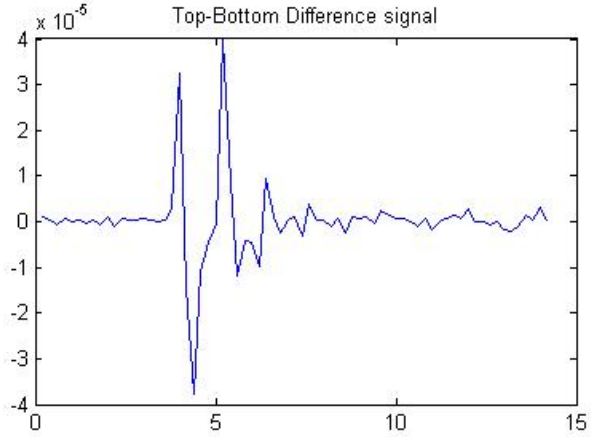
Here I note that there are more charges at the top and around the bottom edge and match number densities in these four patches.





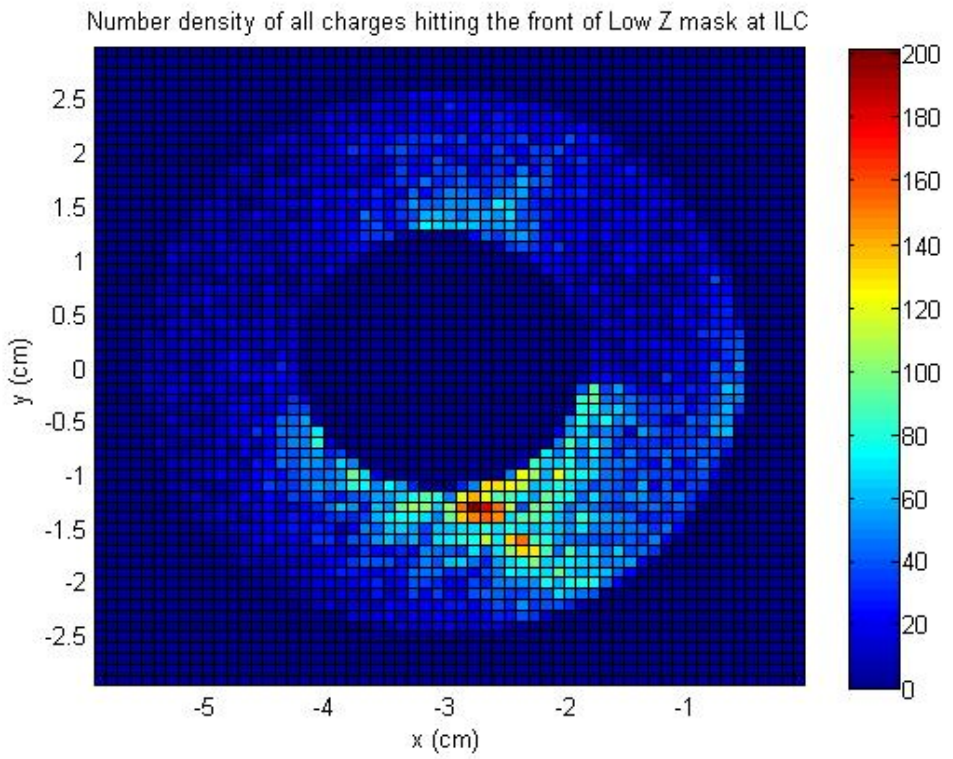
From associating the patches to runs in ESA, I can superimpose stripline signals to build up a prediction of signals for ILC conditions.

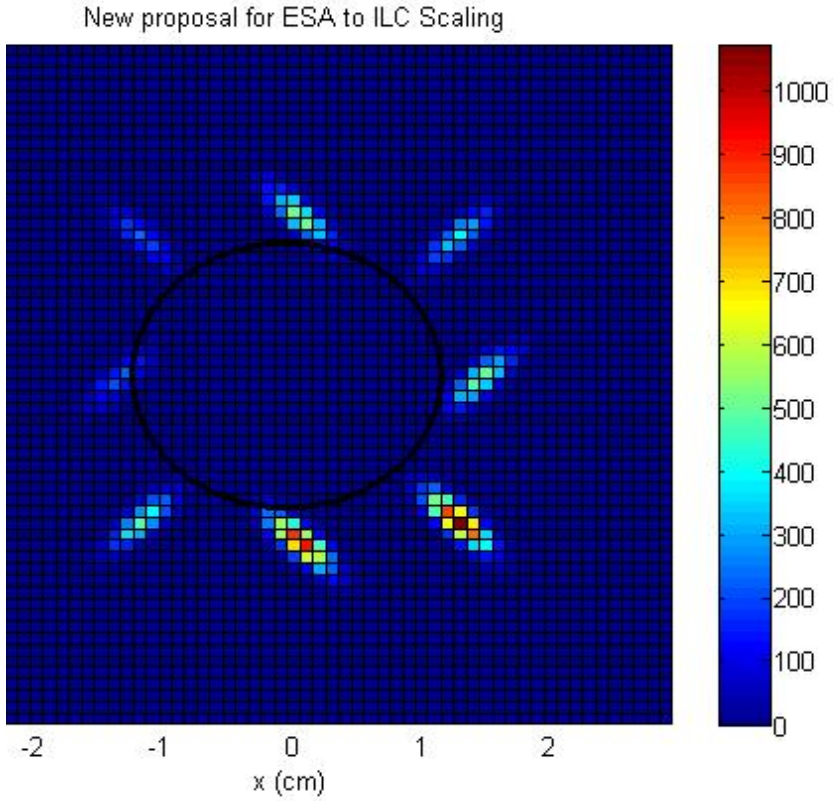




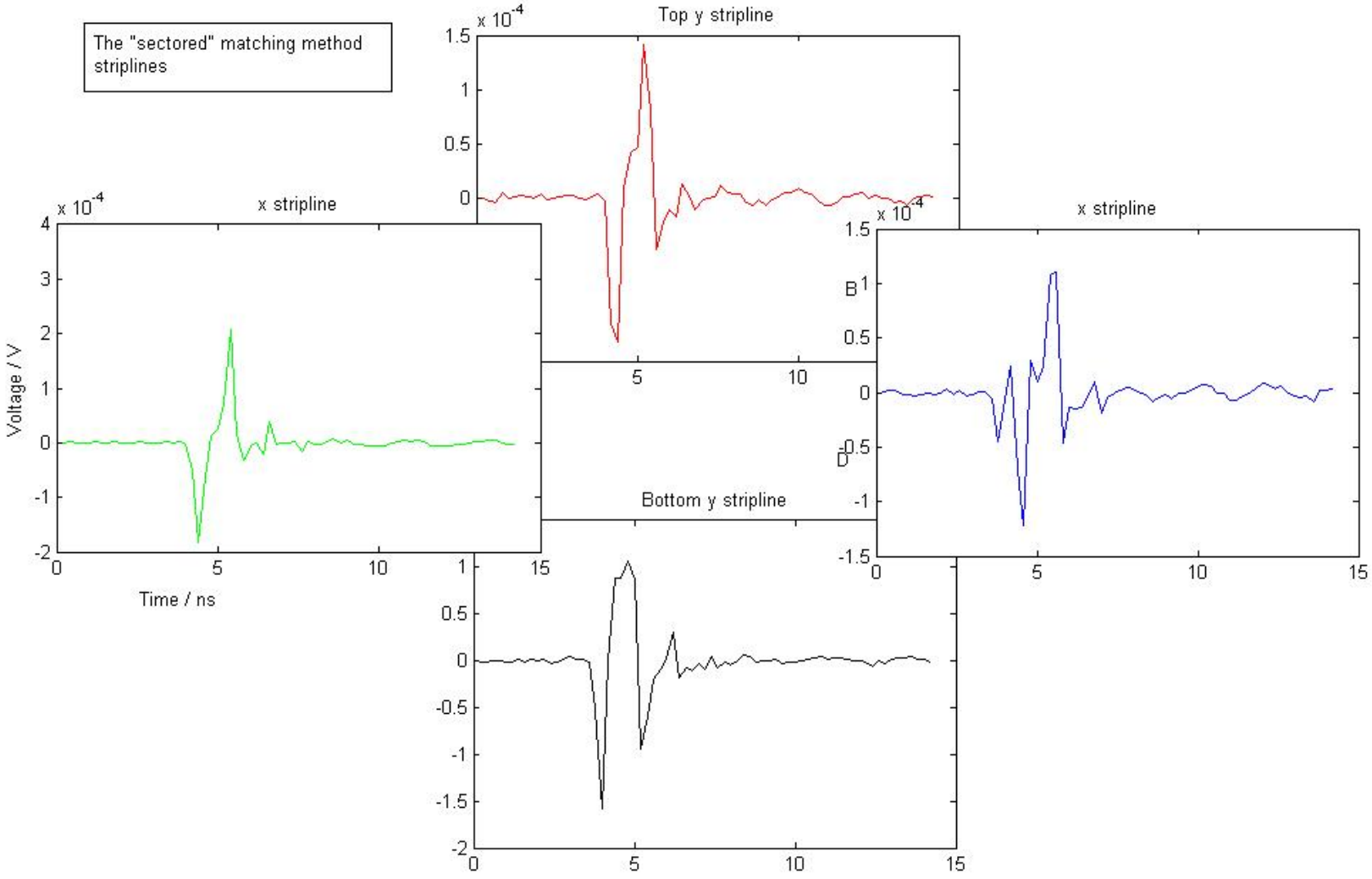
As I have only used “patches”, I only have a tenth of the actual flux hitting the Low Z.

“Sector” method- I sum the charges in eight sectors around the Low Z. I use eight ESA runs to match the number of charges. As the spot size at ESA was small, this leads to a higher number density at each point but the total flux hitting the mask matches ILC.





Again, I can superimpose stripline signals to build up a prediction of signals for ILC conditions.



This gives me a factor of ten greater difference that the other method.

How does this compare to the difference for 2e10 electron beam offset by a micron?