



# Group meeting

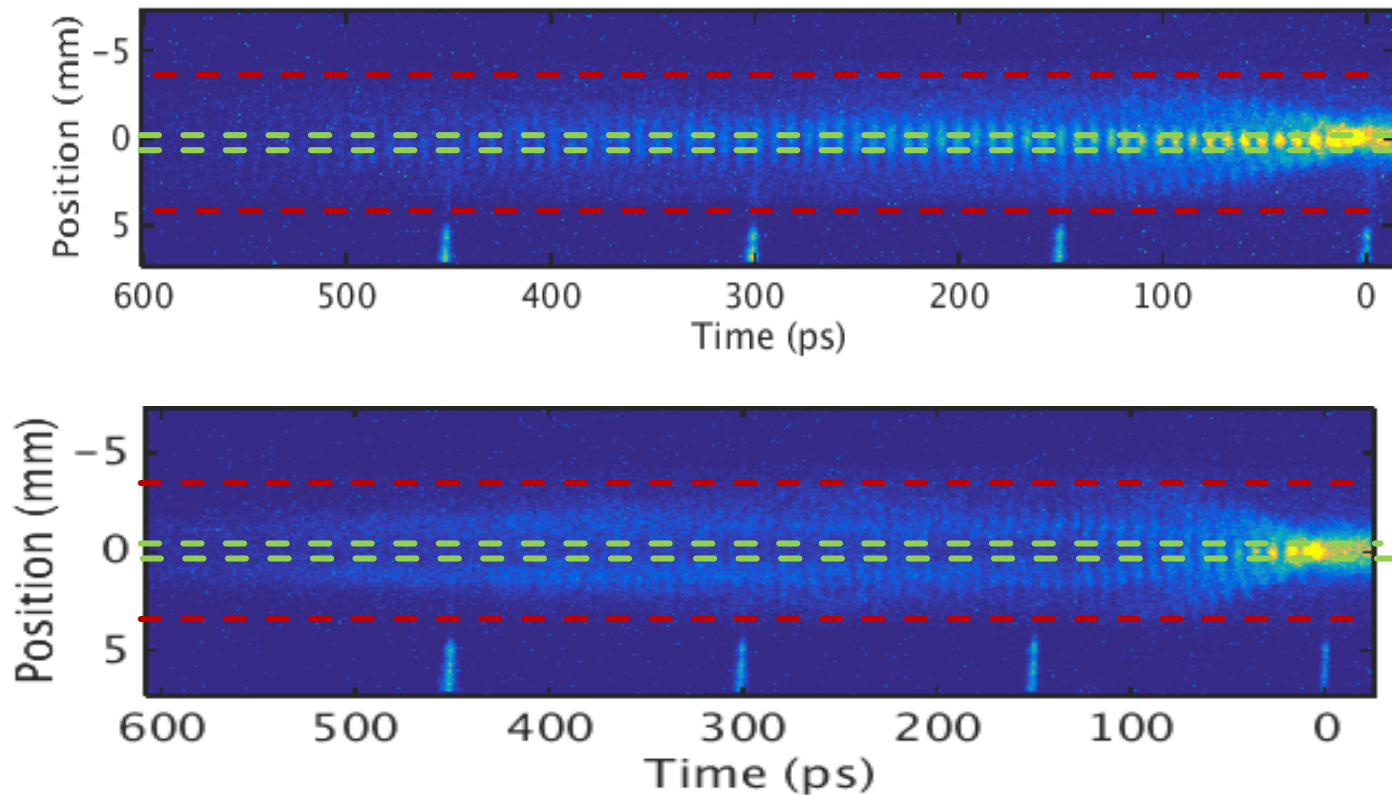


16.08.19

Fabian

# Frequency vs gradient measurement

The explanation: The CTR measurement sees the signal of the entire bunch (marked red), the fft used just a lineout (green). Specially at negative gradients, where almost all protons are defocused, this can lead to discrepancies between both measurements:

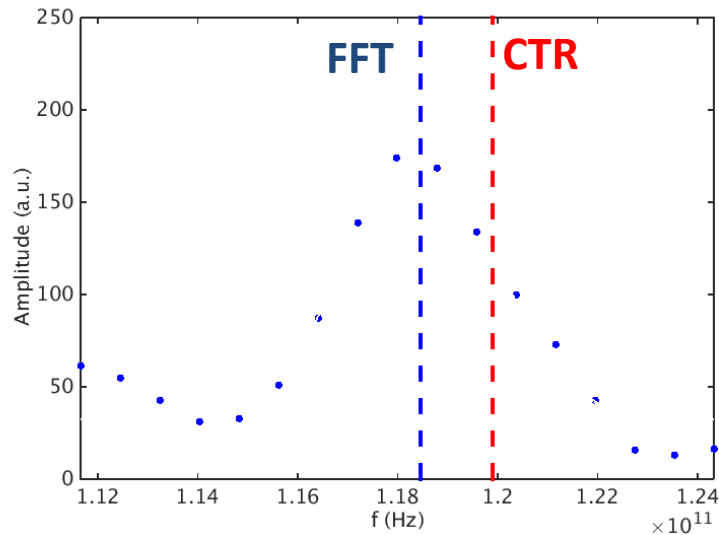


# Frequency vs gradient measurement

The explanation: The CTR measurement sees the signal of the entire bunch (marked red), the fft used just a lineout (green). Specially at negative gradients, where almost all protons are defocused, this can lead to discrepancies between both measurements:

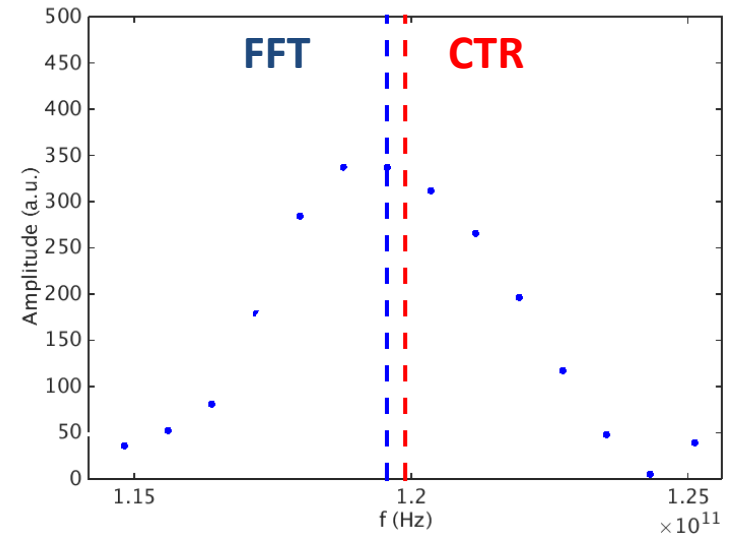
- 0.5%/m gradient:

**FFT from lineout**



Frequencies do not match!

**FFT from full range**

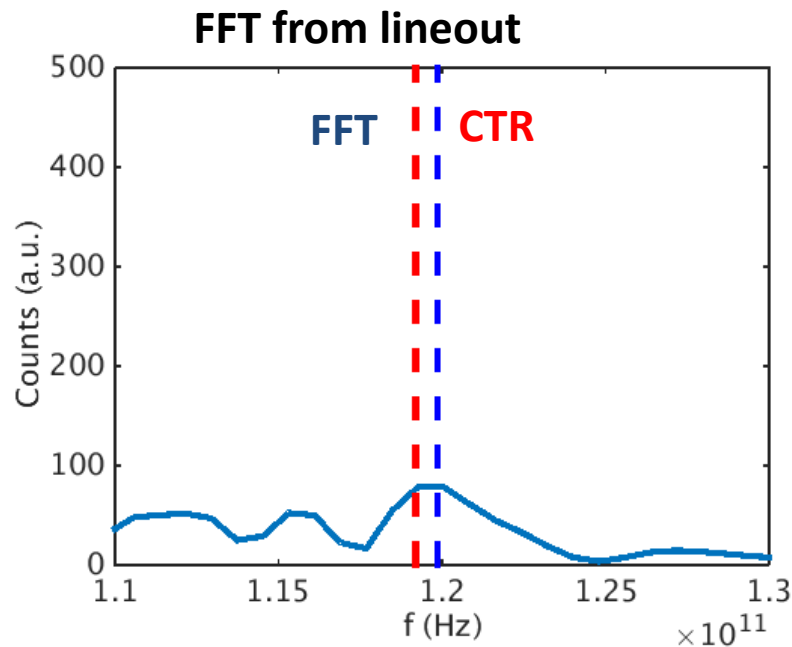


Frequencies match!

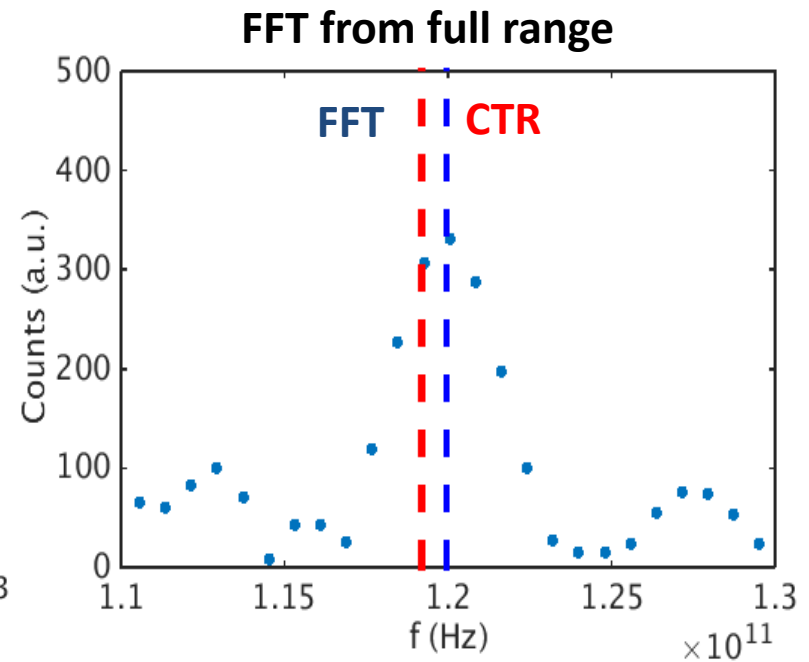
# Frequency vs gradient measurement

The explanation: The CTR measurement sees the signal of the entire bunch (marked red), the fft used just a lineout (green). Specially at negative gradients, where almost all protons are defocused, this can lead to discrepancies between both measurements:

- 2%/m gradient:



Not very helpful!



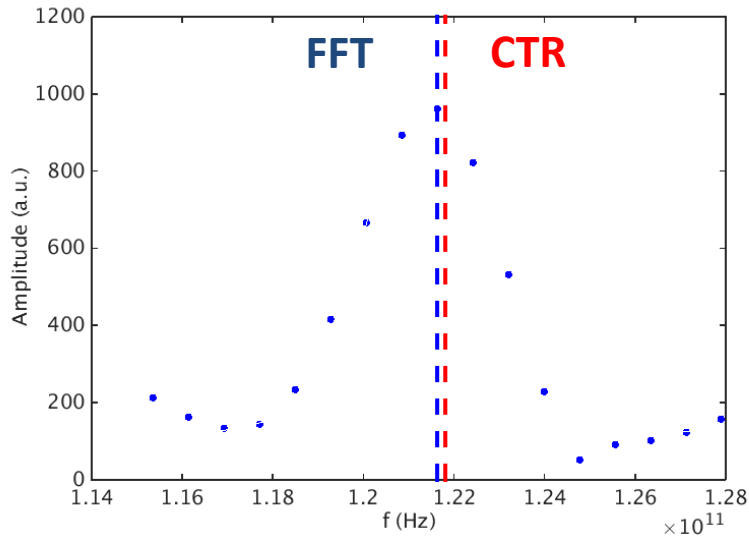
Looks better!

# Frequency vs gradient measurement

The explanation: The CTR measurement sees the signal of the entire bunch (marked red), the fft used just a lineout (green). Specially at negative gradients, where almost all protons are defocused, this can lead to discrepancies between both measurements:

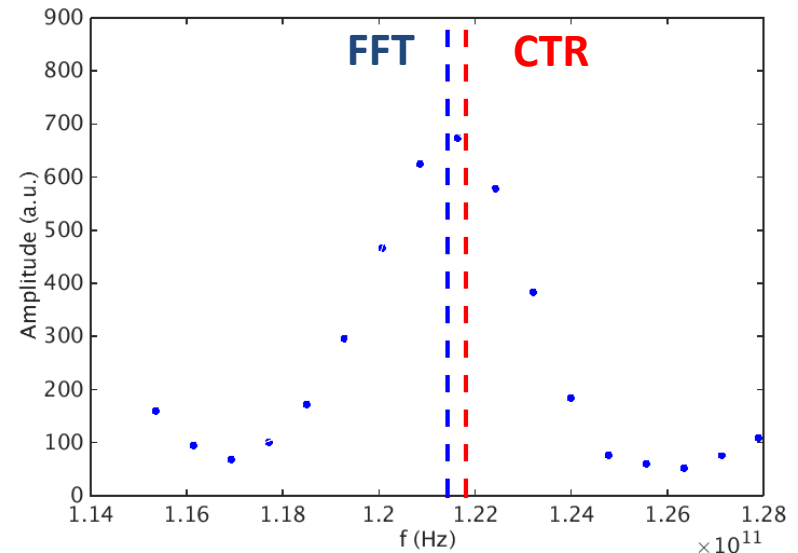
+ 0.4 %/m gradient: no difference!

**FFT from lineout**



Frequencies match!

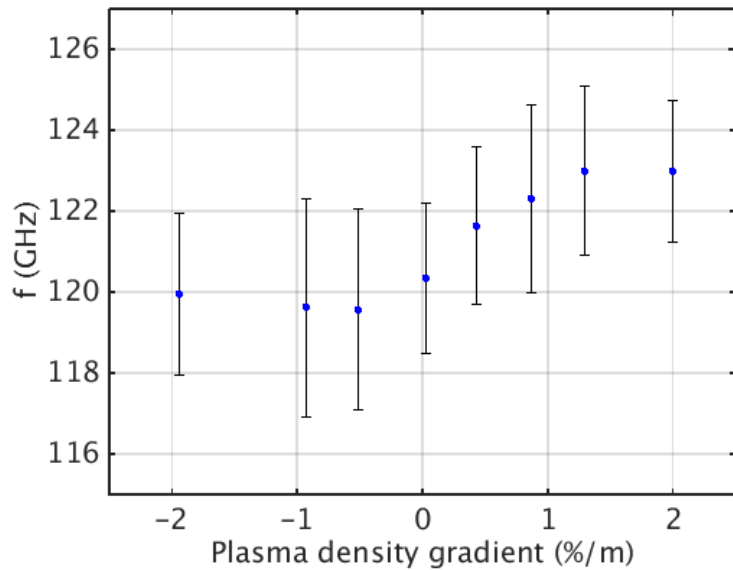
**FFT from full range**



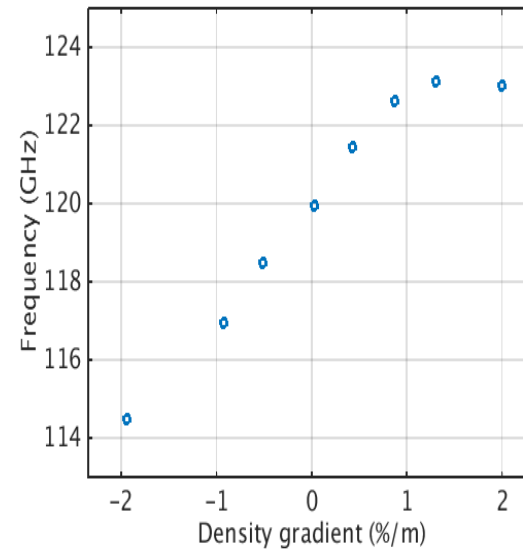
Frequencies match!

# New f plot using the full range

The new plot shows as well a plateau at low gradients

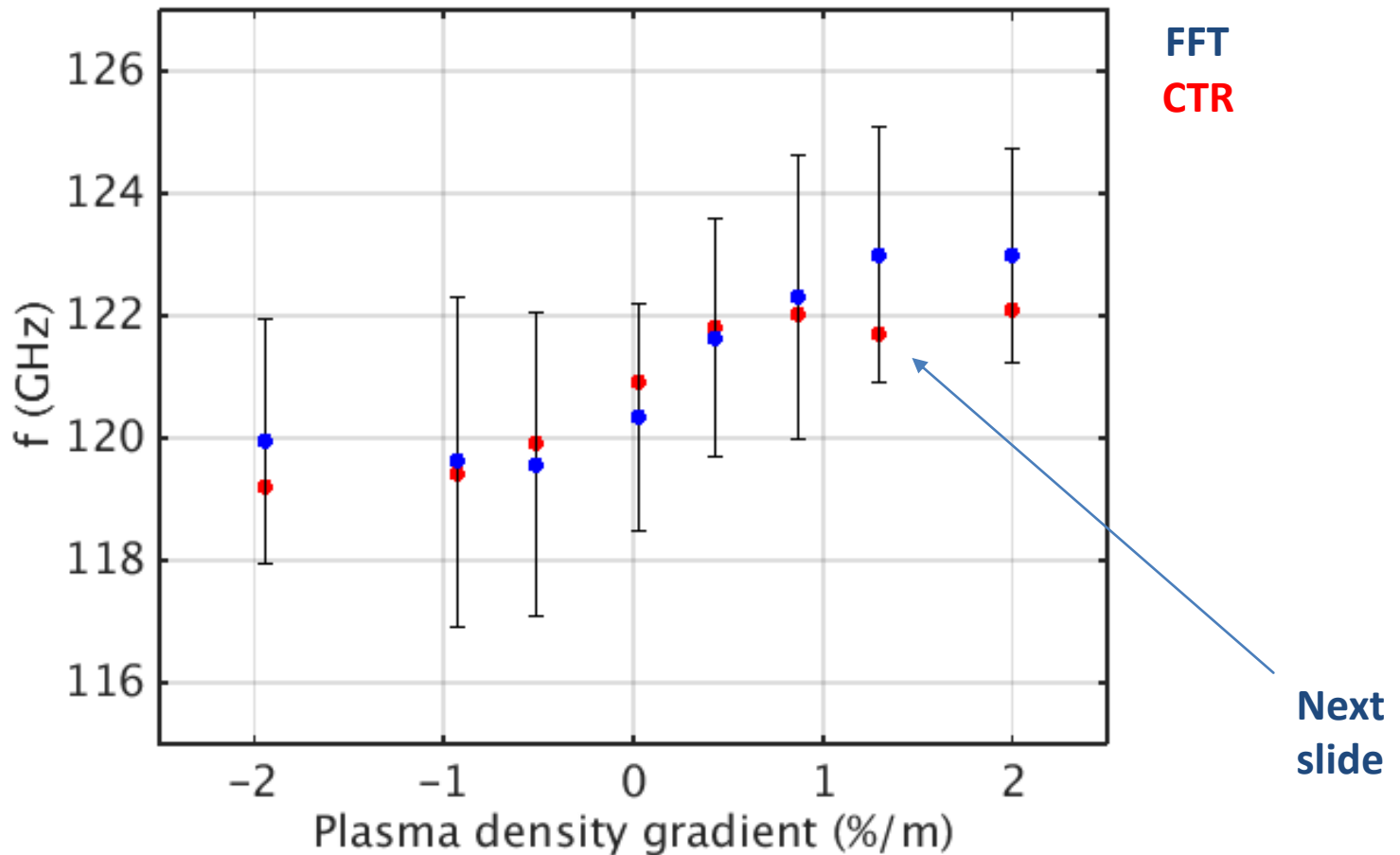


Before:



# New comparison:

Better agreement! Need exact values!



# For + 1.3%/m:

CTR seems to be off, but within error?

