

1807.1

NbTiN resonators with adjusted shunts to avoid shorts

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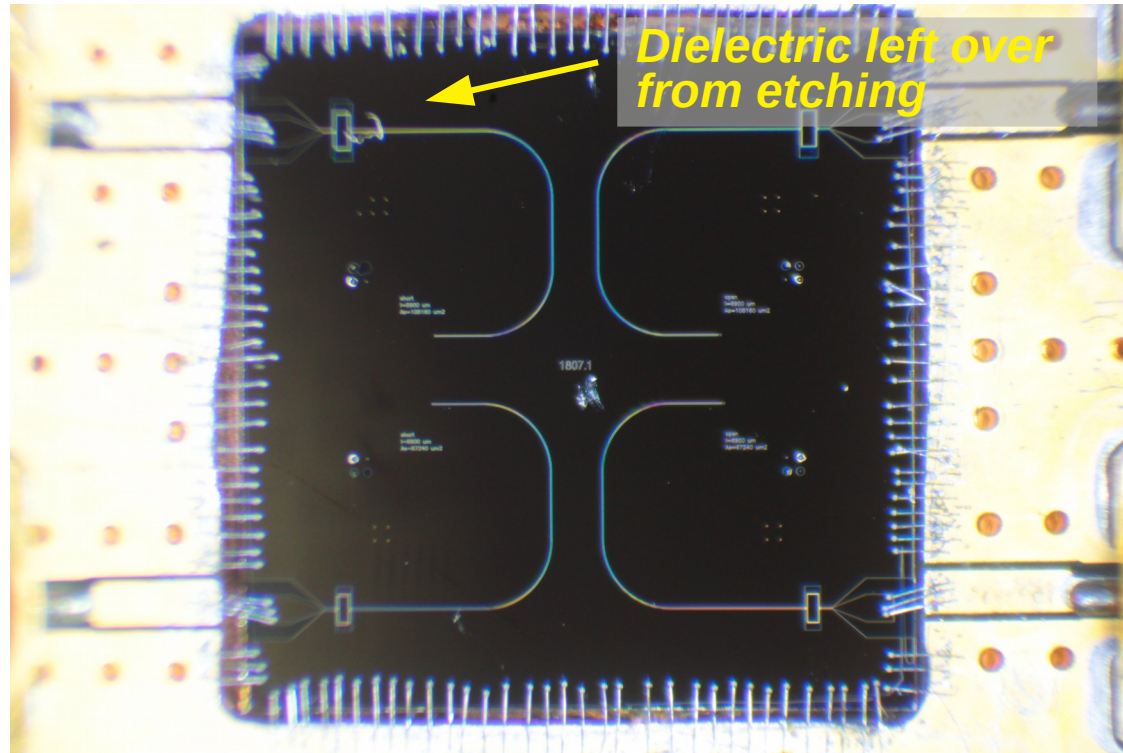
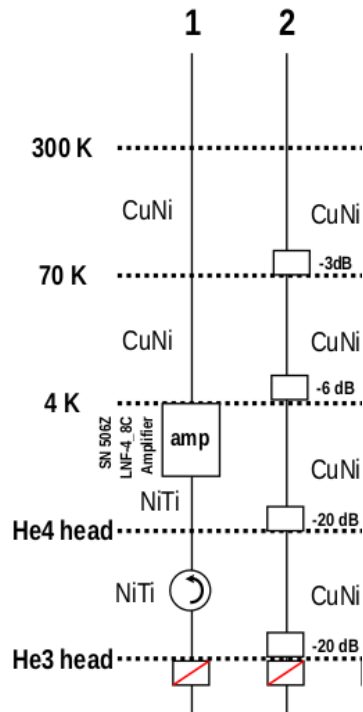
16-7-2018

Mark

He7 Fridge

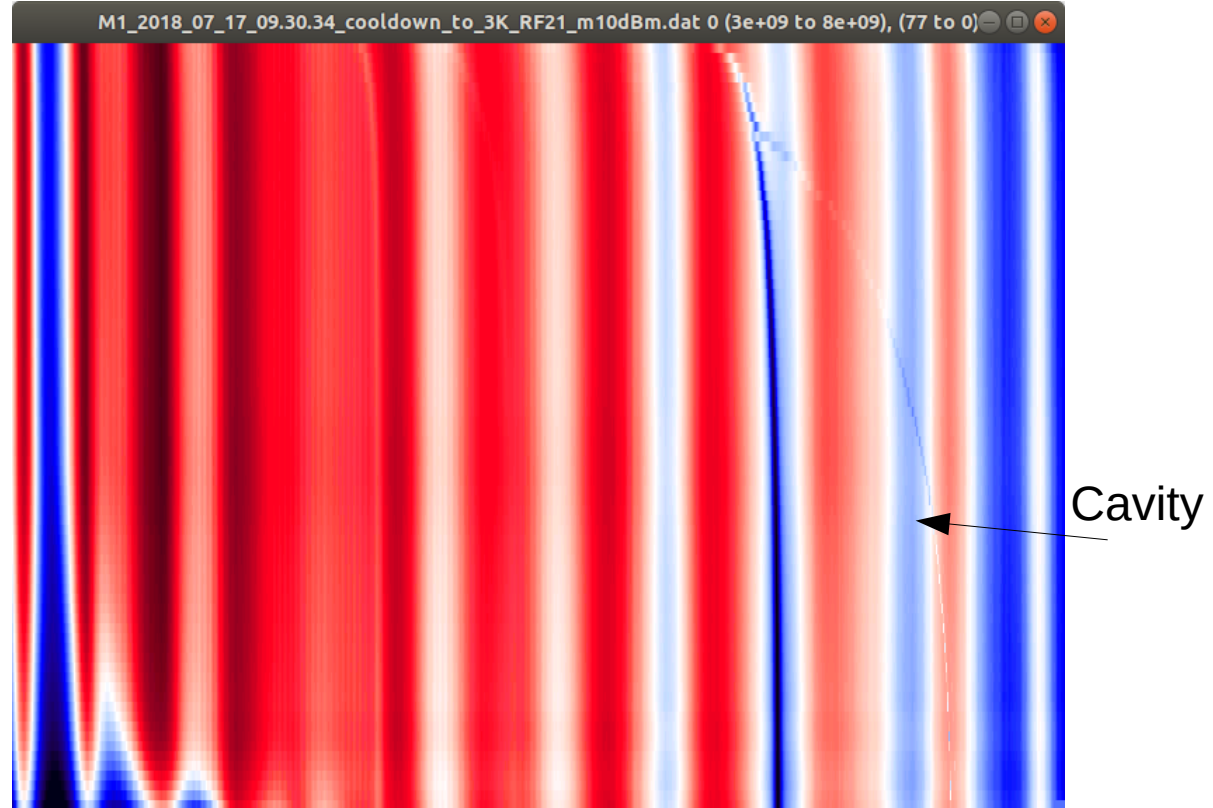
# Connected sample on standard lines – 16-07-18

- Connected First short (top left) to attenuated line and amplifier + -20dB directional coupler

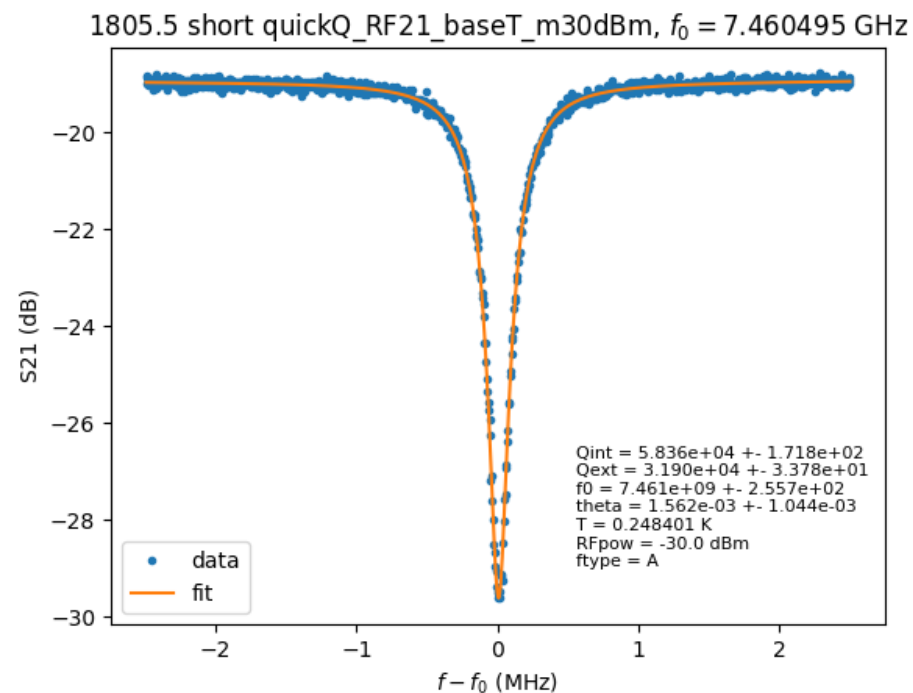
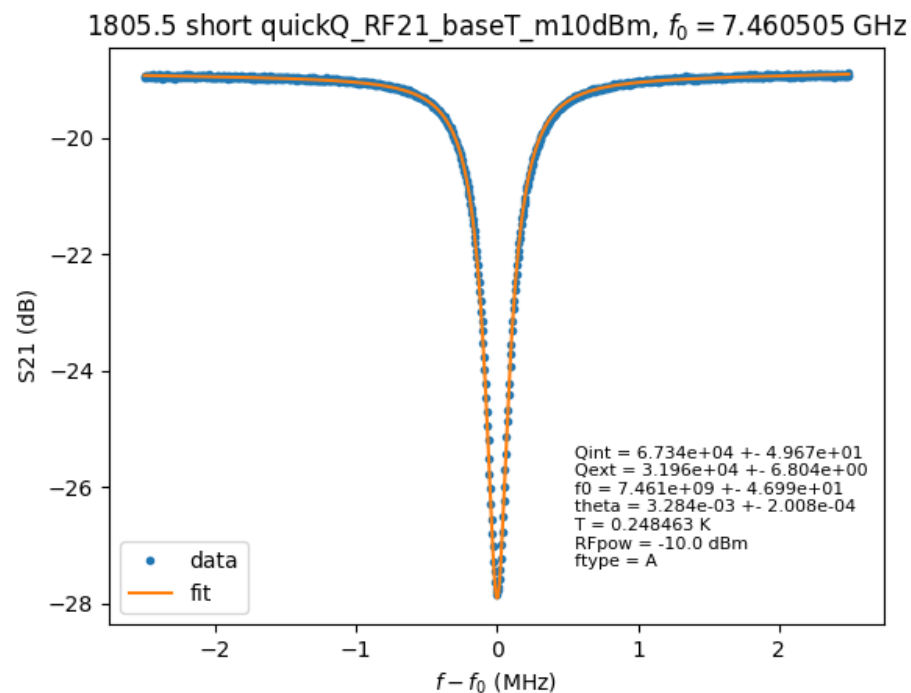


# Cooldown to 4K

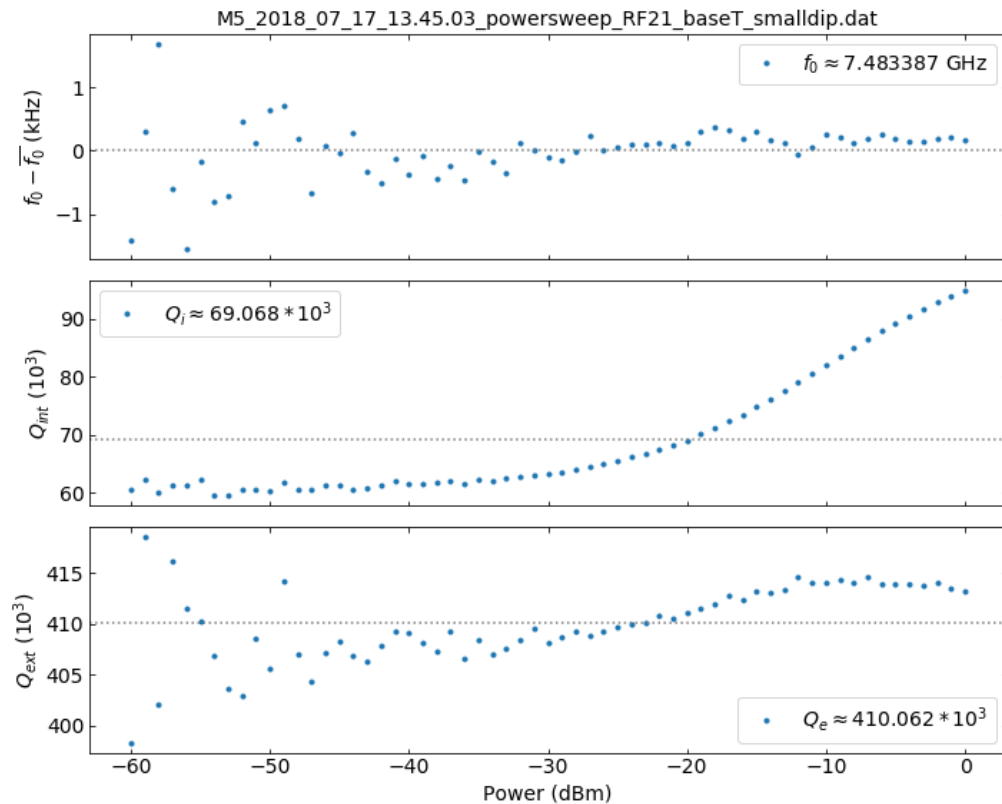
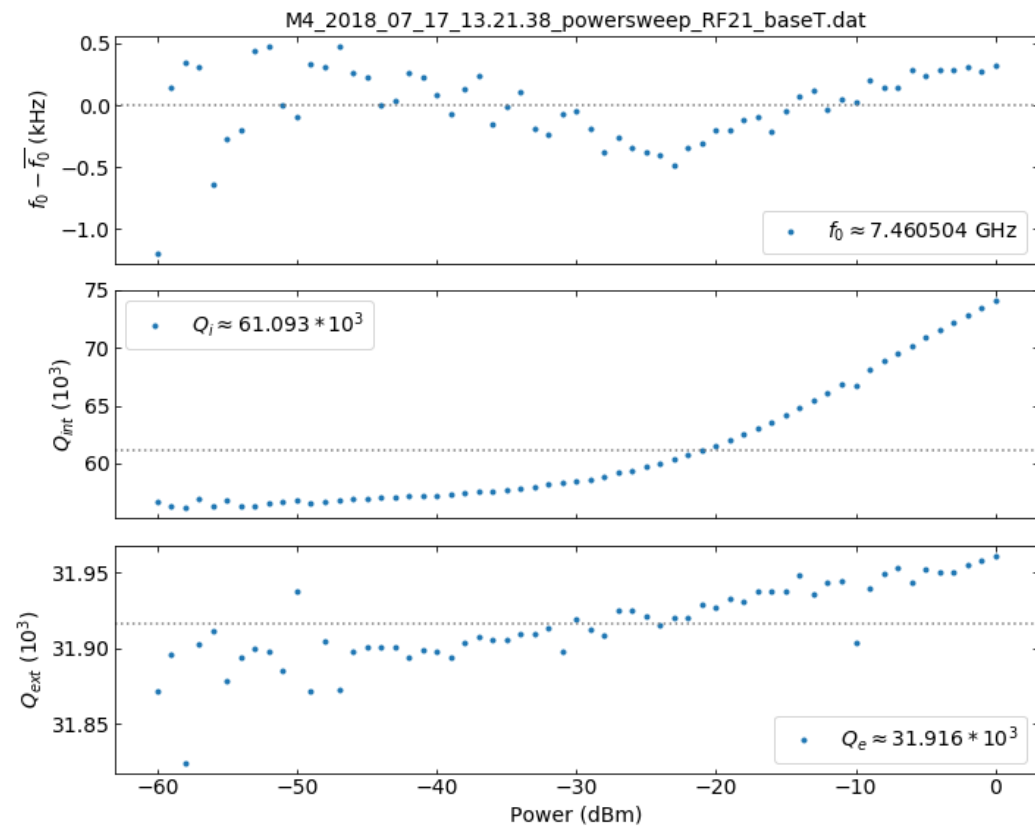
Weird extra modes?



# QuickQs of cavity

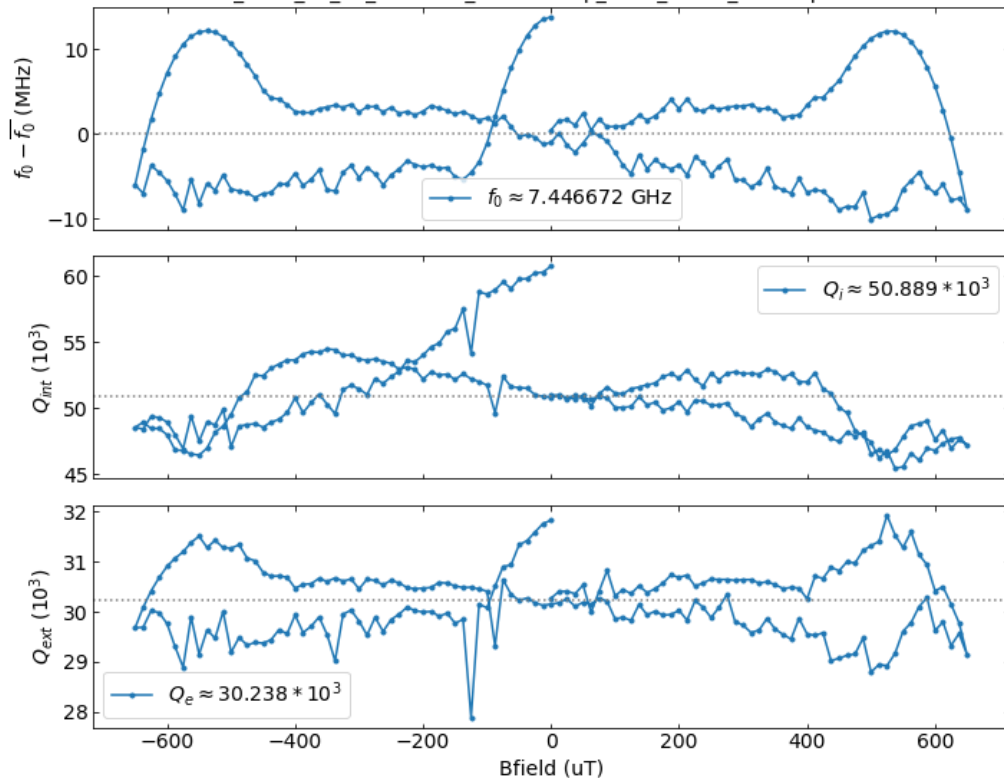


# Power dependence. Left: cavity, right: weird resonance

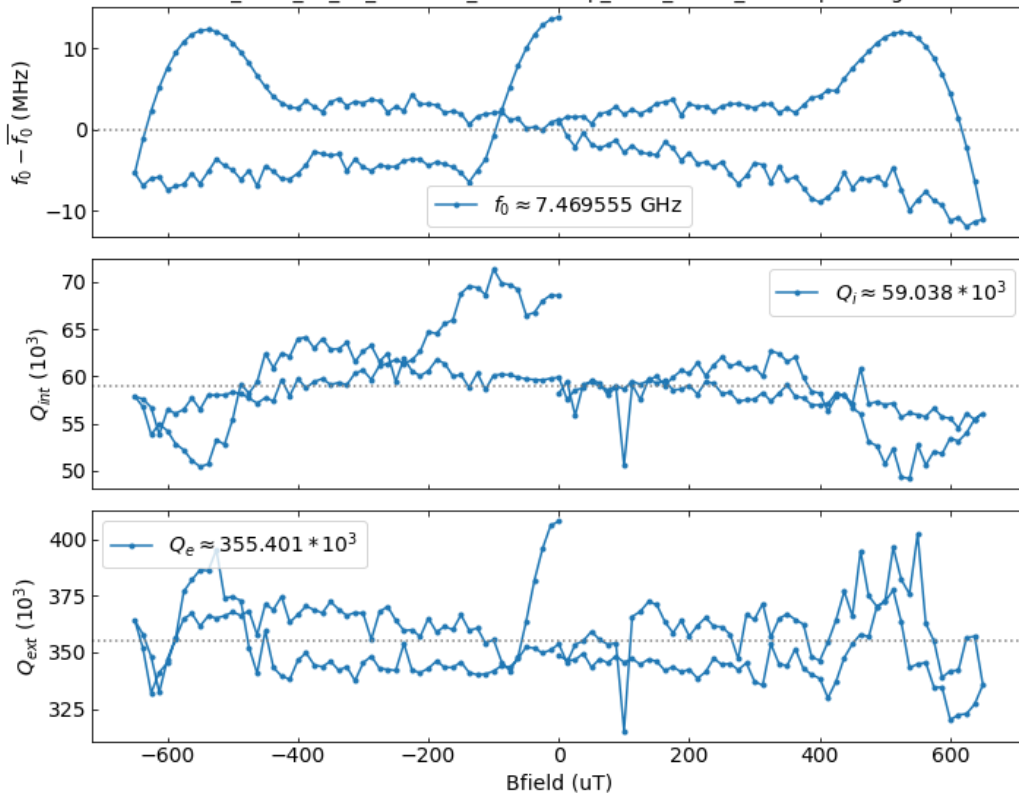


# Bfield dependence. Left: cavity, right: weird resonance

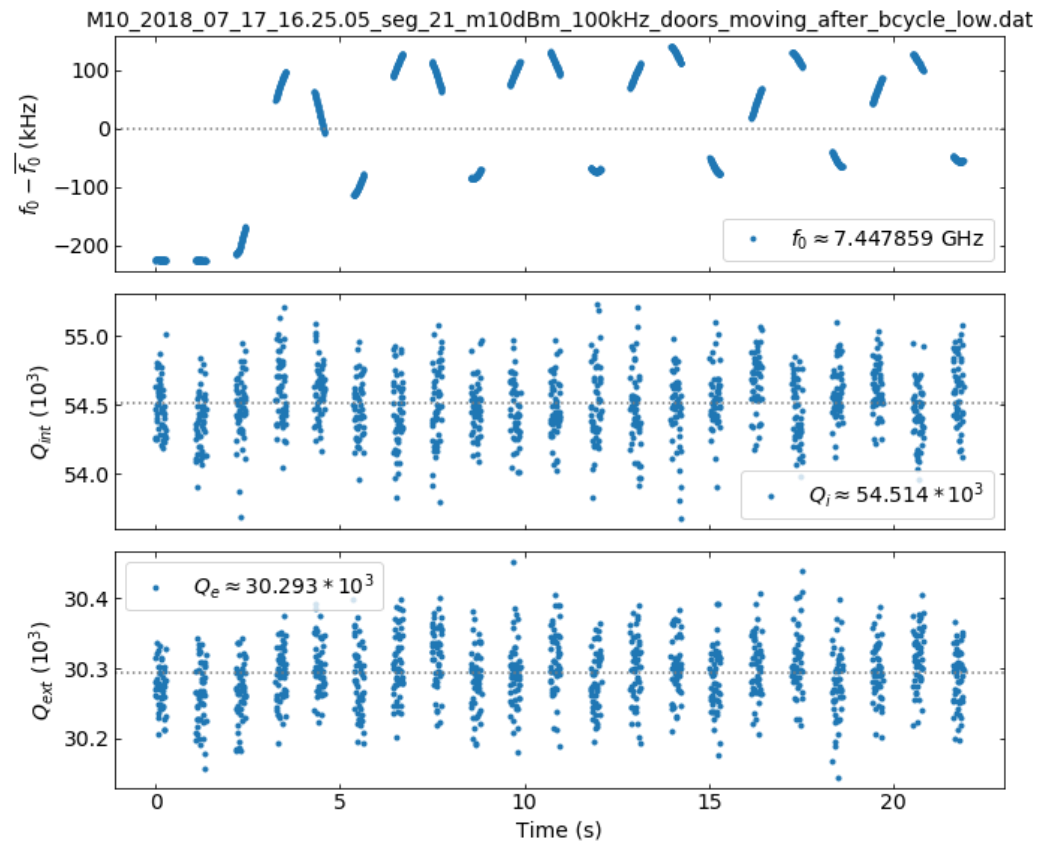
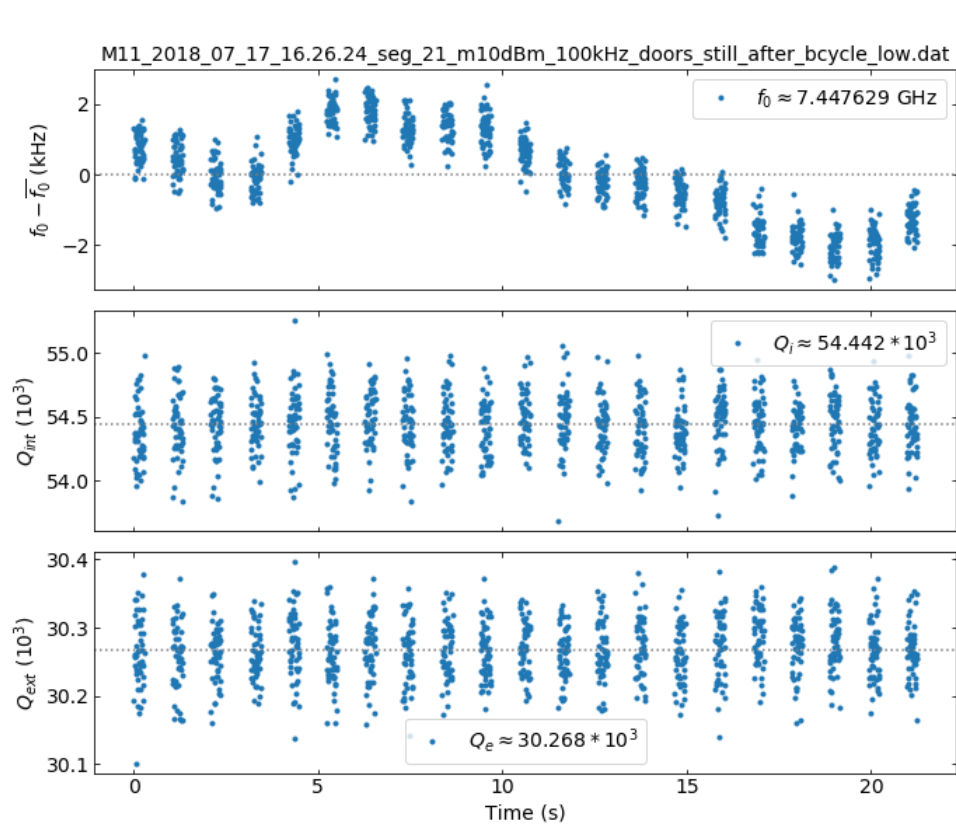
M7\_2018\_07\_17\_14.23.35\_bfieldsweep\_RF21\_baseT\_smallldip.datlow



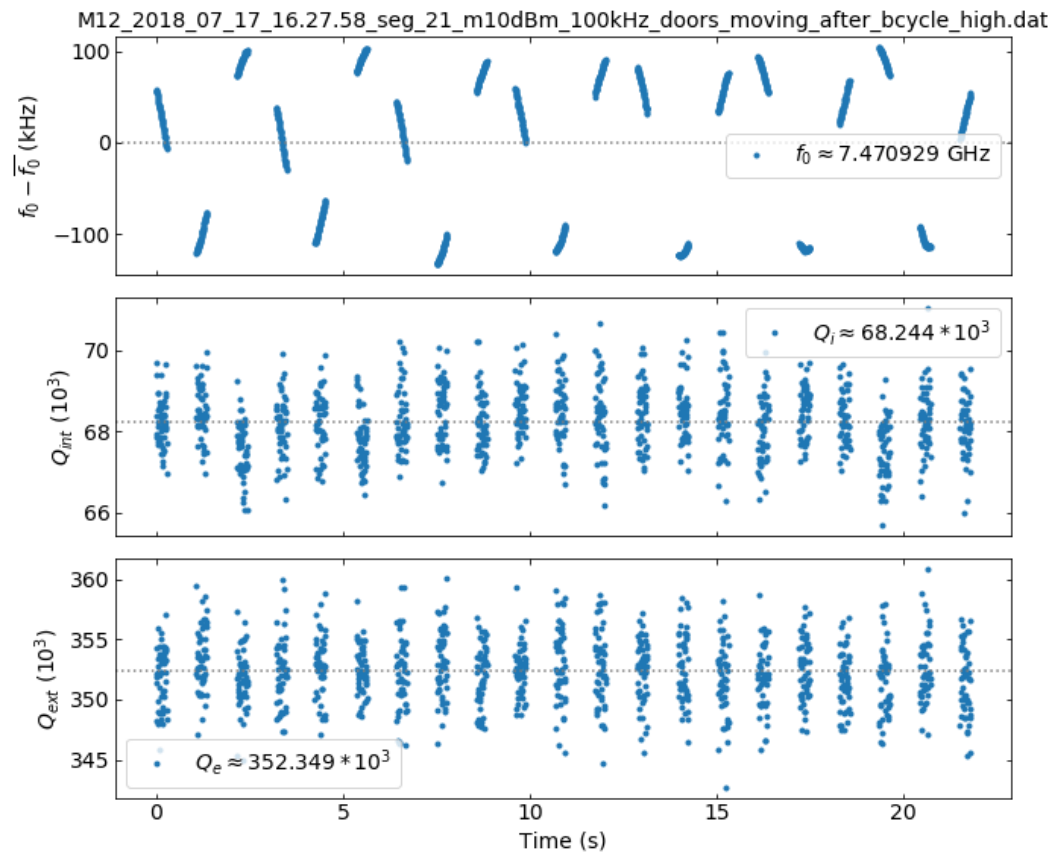
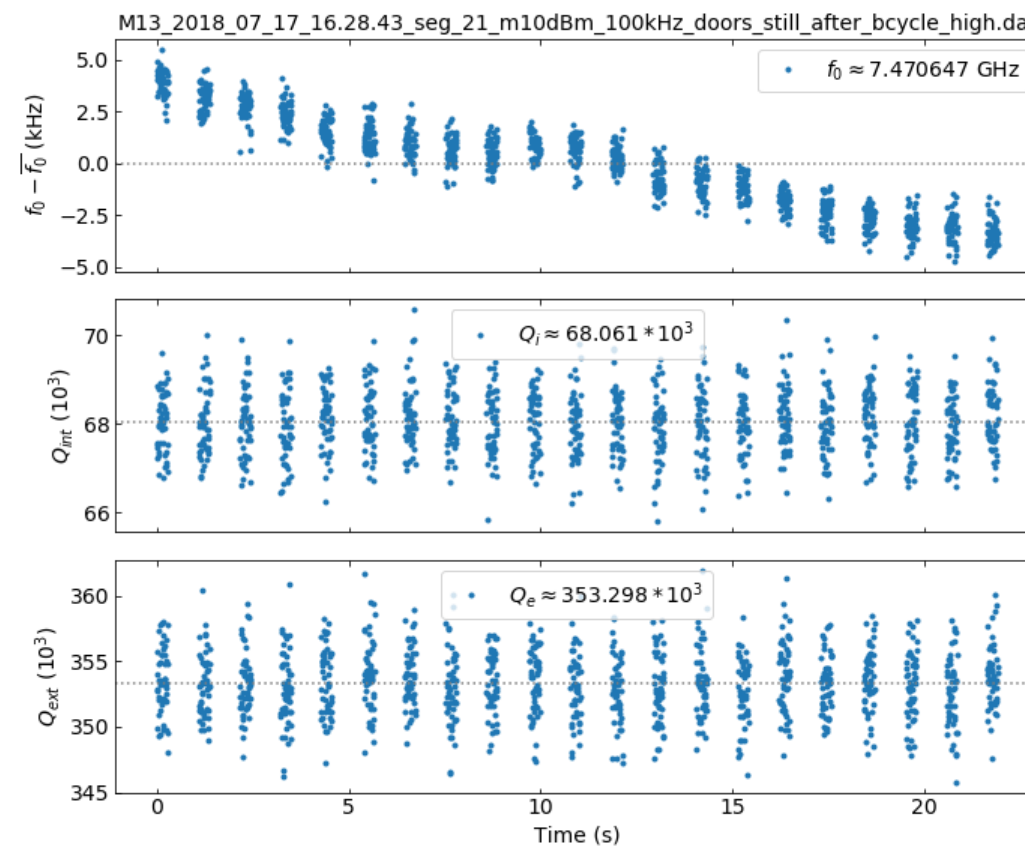
M7\_2018\_07\_17\_14.23.35\_bfieldsweep\_RF21\_baseT\_smallldip.dathigh



# Cavity “Jitter”. Left: doors closed, right: doors moving



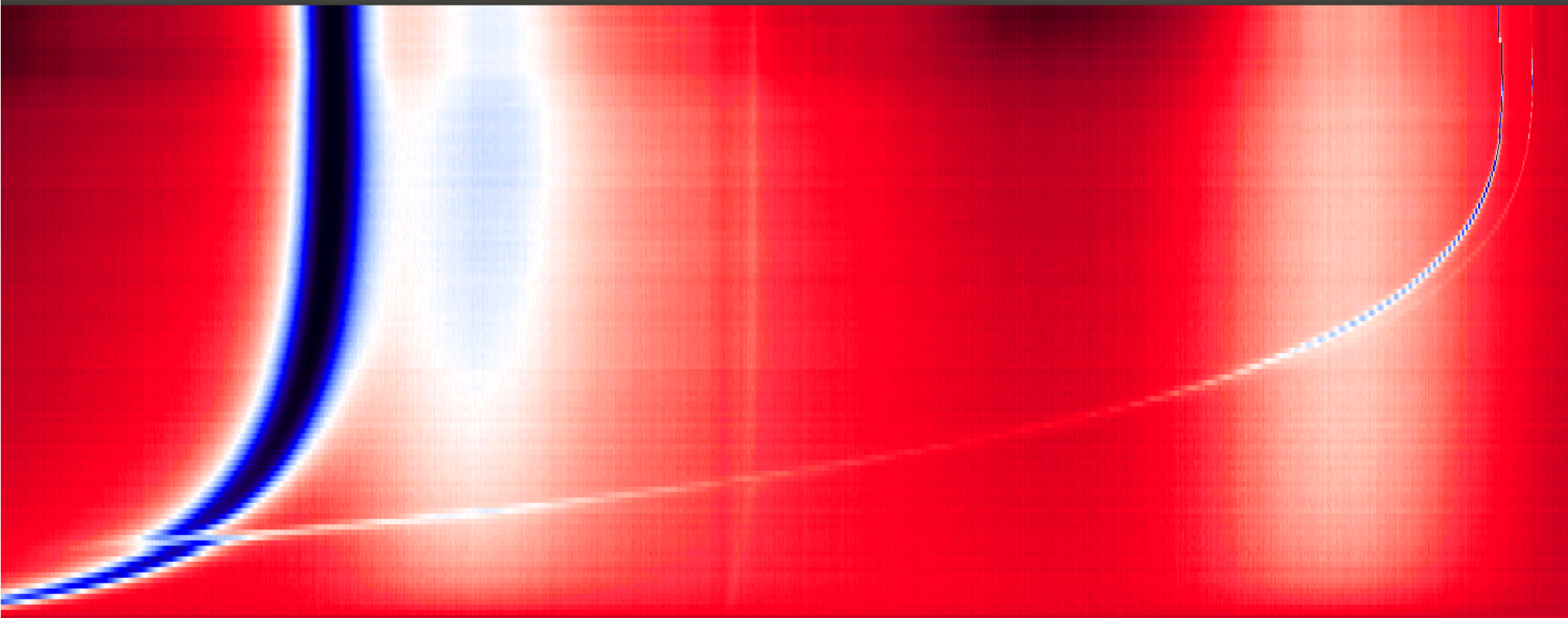
# Weird resonance “jitter”. Left: doors closed, right: doors moving





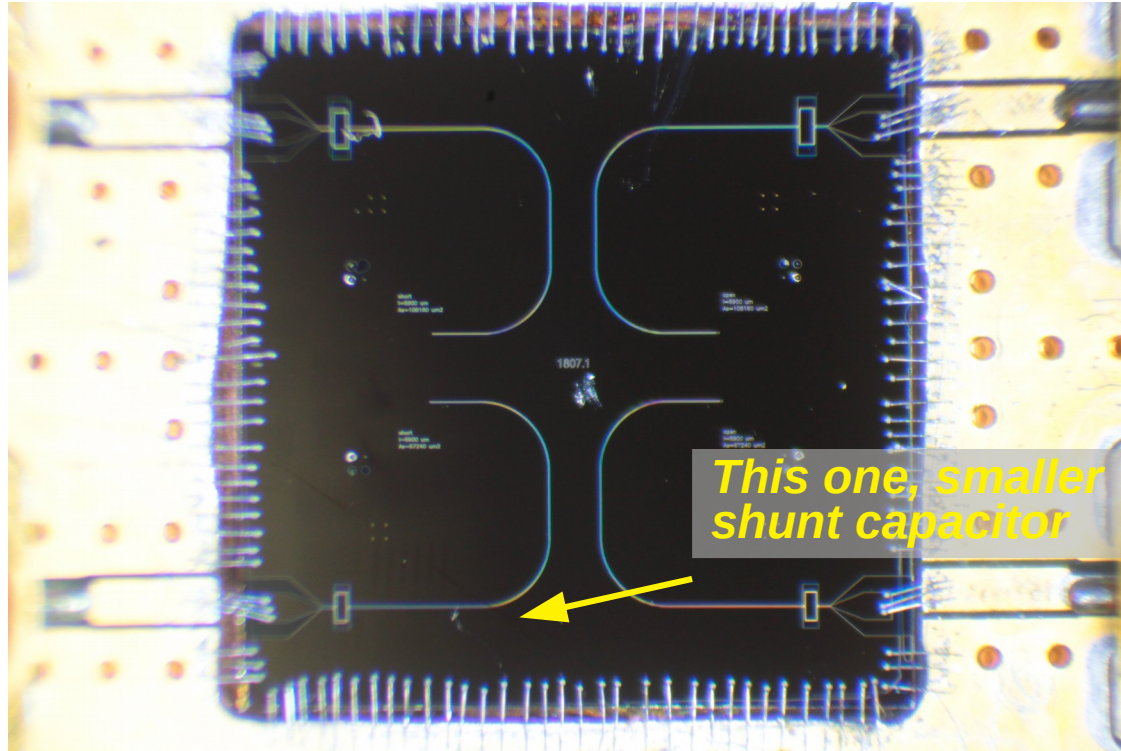
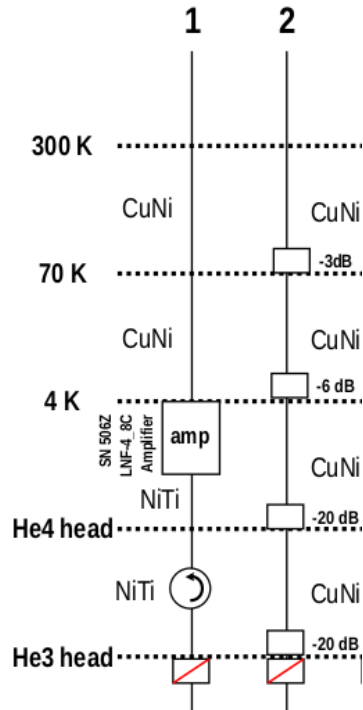
# Warmup

M15\_2018\_07\_17\_16.41.43\_cooldown\_to\_3K\_RF21\_m10dBm.dat 0 (6.4e+09 to 7.5e+09), (114 to 0)



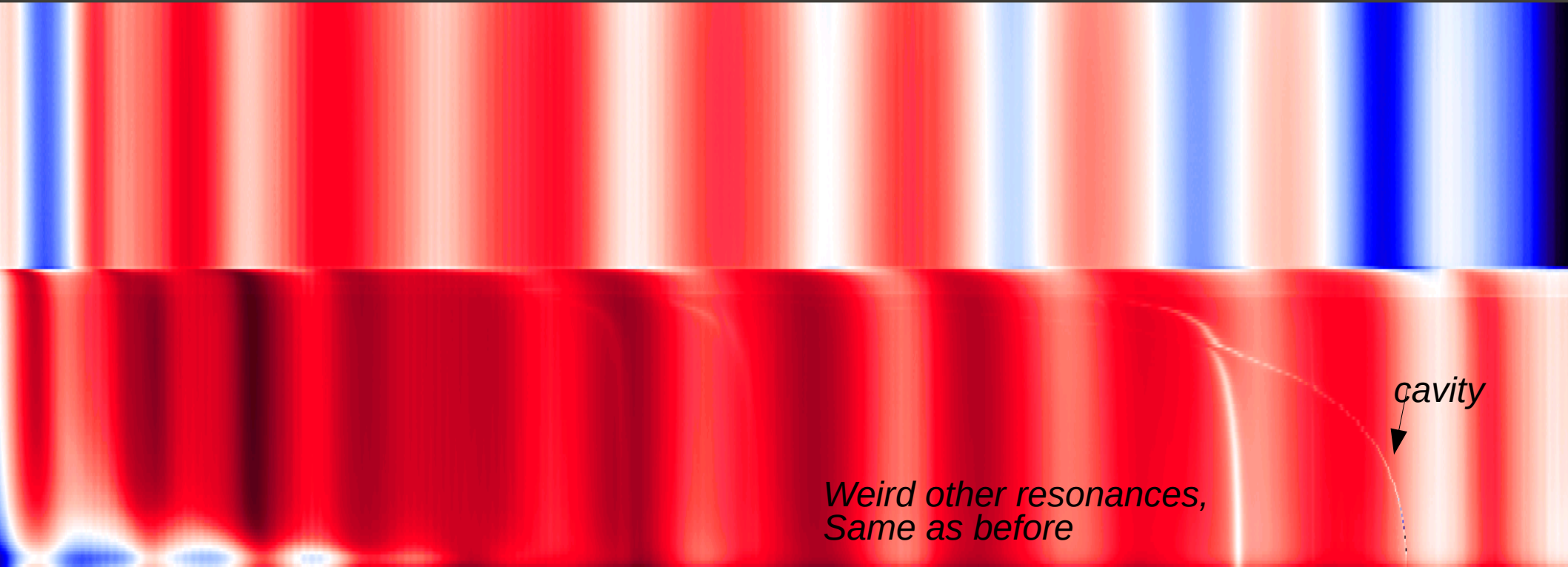
# Connected sample on standard lines – 18-07-18

- Connected Second short (bottom left) to attenuated line and amplifier + -20dB directional coupler

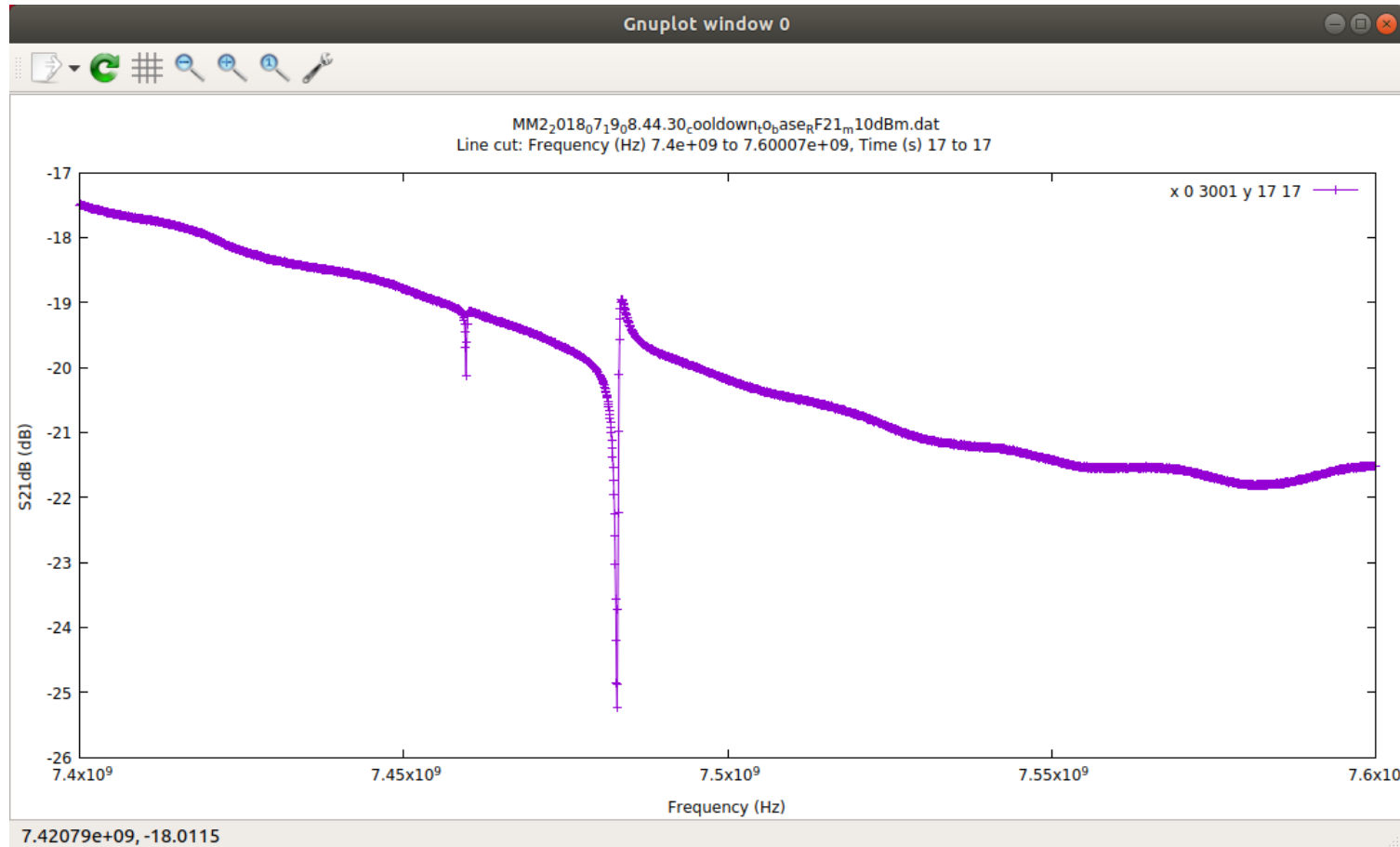


# Cooldown to 3K

MM1\_2018\_07\_19\_06.57.08\_cooldown\_to\_3K\_RF21\_m10dBm.dat 0 (3e+09 to 8e+09), (179 to 0)



# Again, second cavity (?) visible



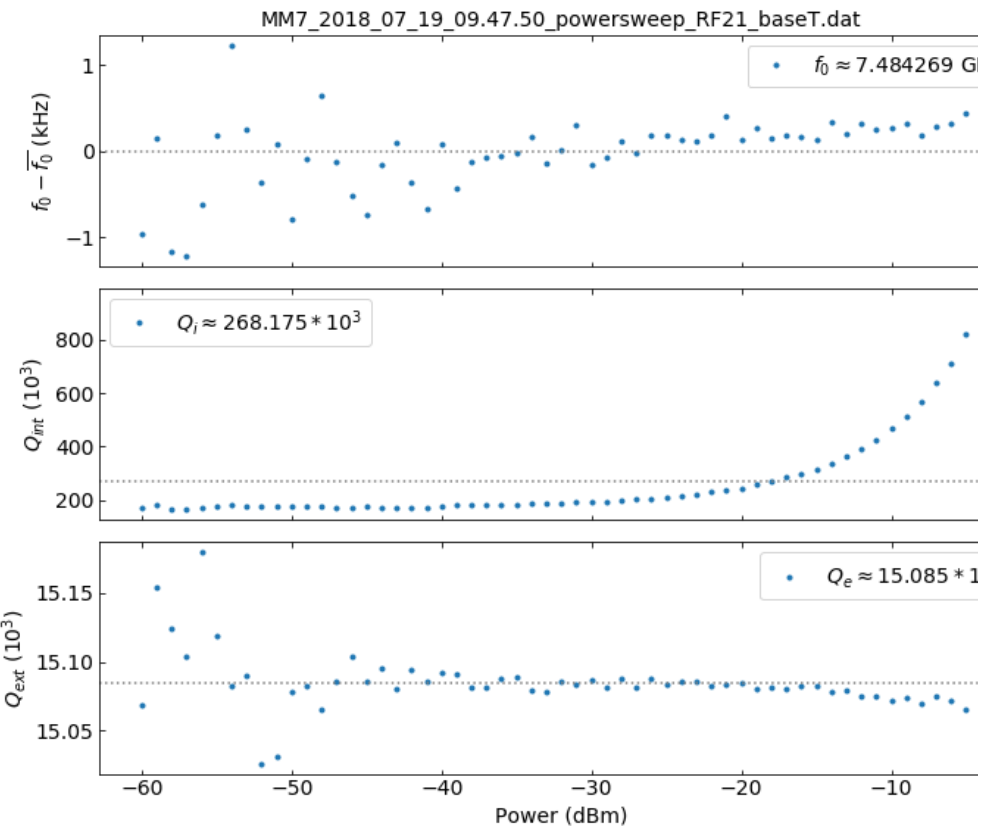
We assume that the lower one is from the device with the first cooldown, somehow coupling through the ground plane?

First cooldown: left dip deep, right one shallow

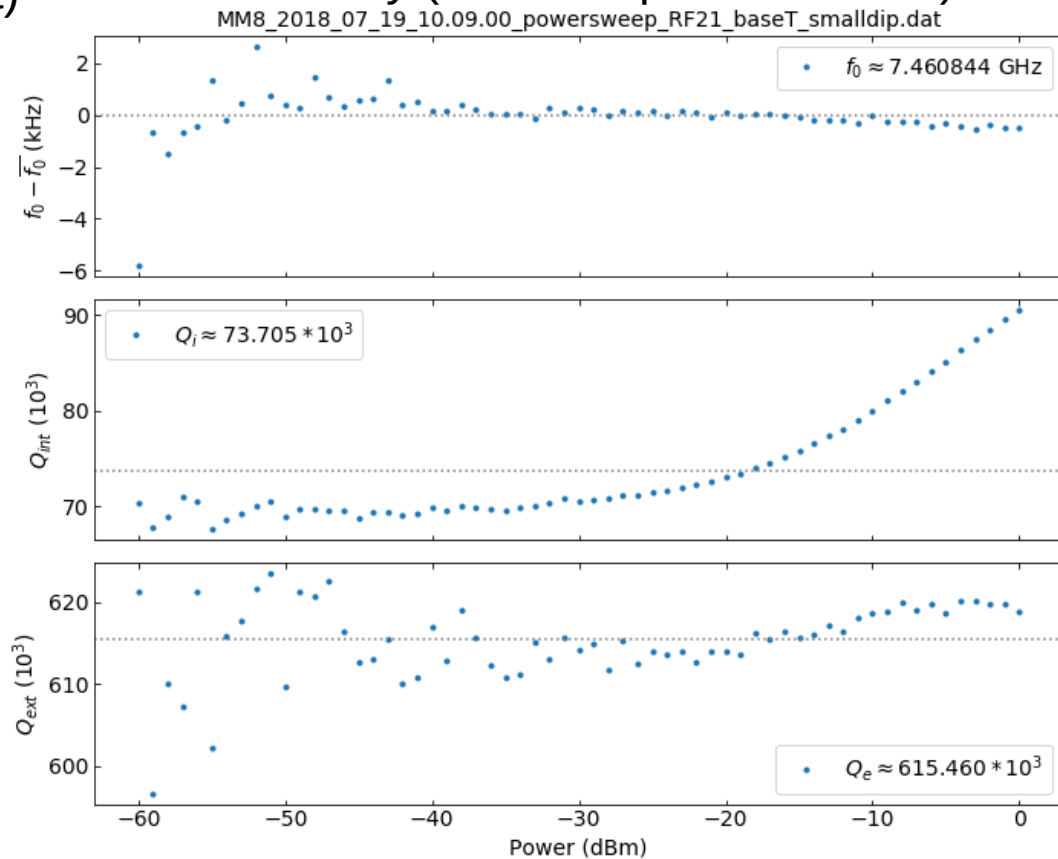
This time: reversed  
This makes sense because now we're probing the other resonator directly

# Power dependence. Left: cavity, right: other cavity

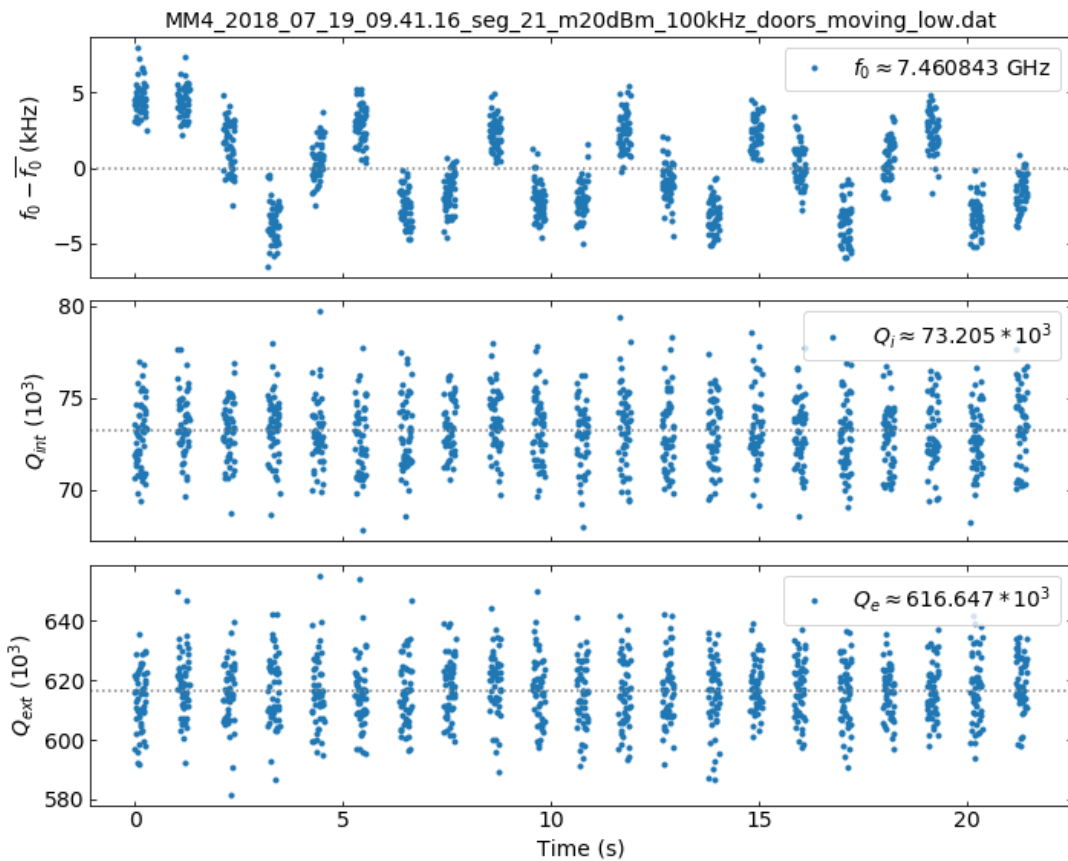
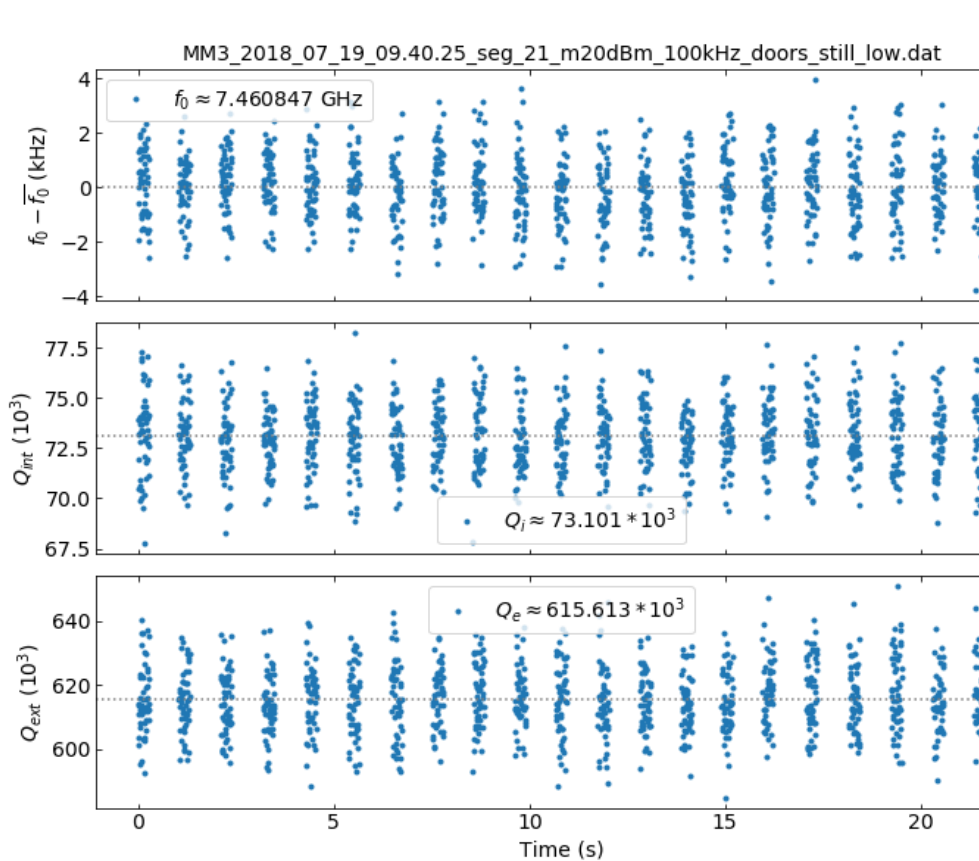
## Actual cavity, overcoupled (smaller shunt)



## Other cavity (undercoupled of course)

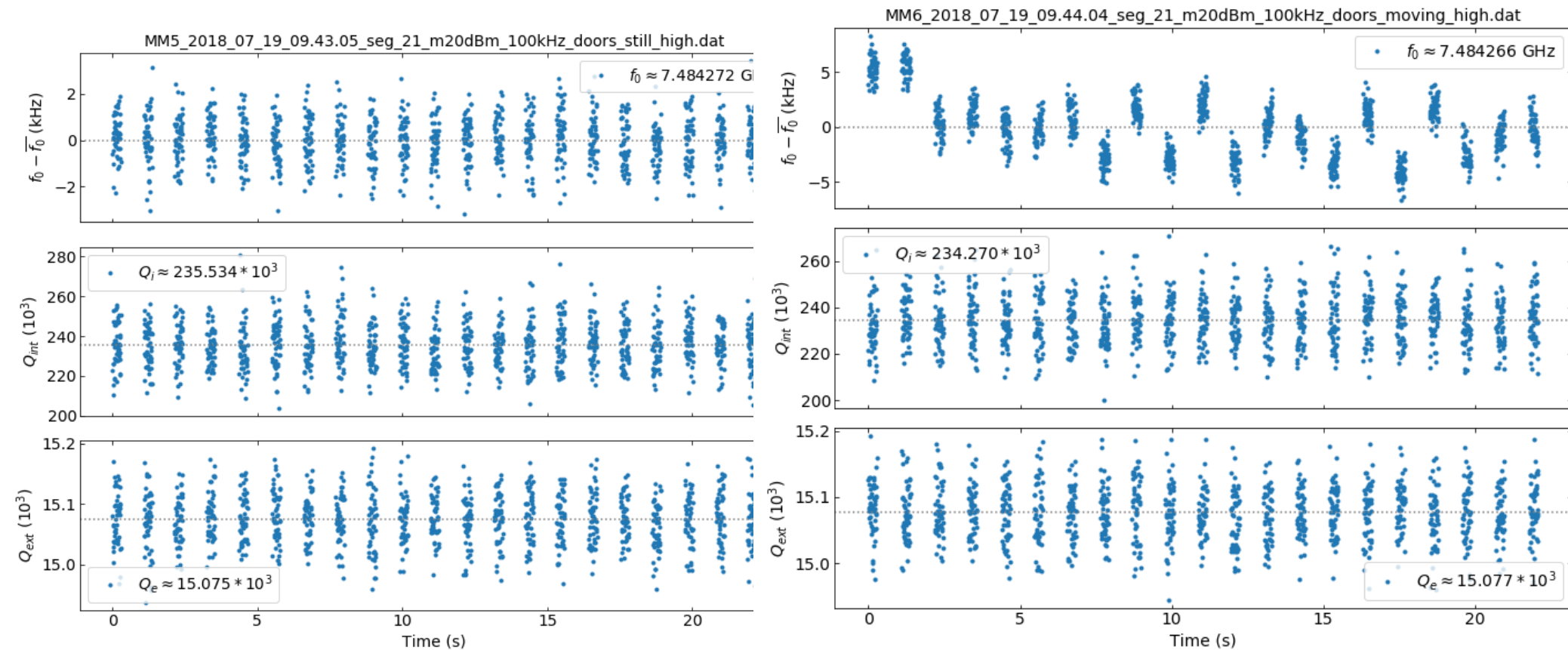


# Cavity “Jitter”. Left: doors closed, right: doors moving





# Other cavity “Jitter”. Left: doors closed, right: doors moving



# Warmup

