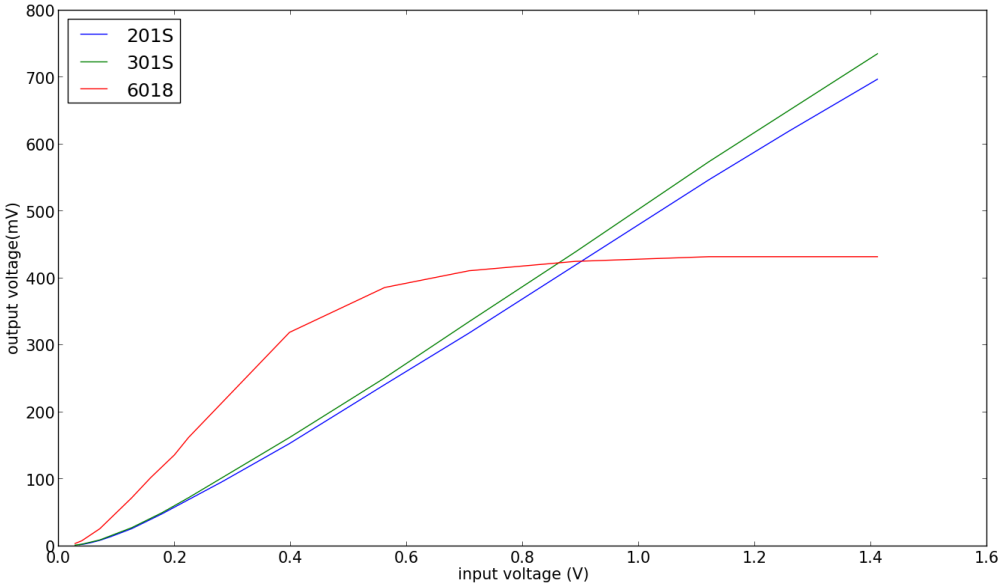
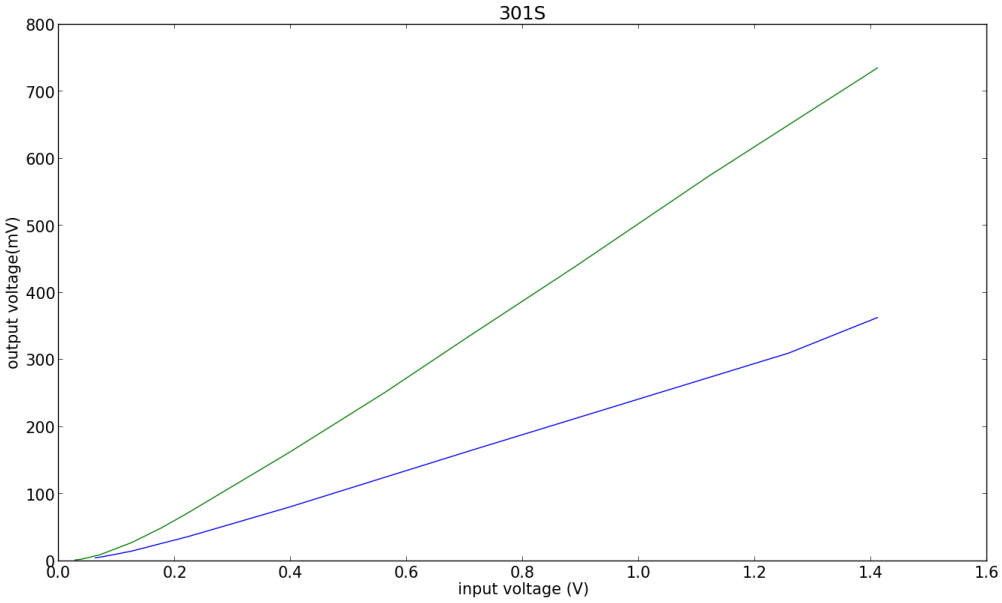
Attenuator Amplifier

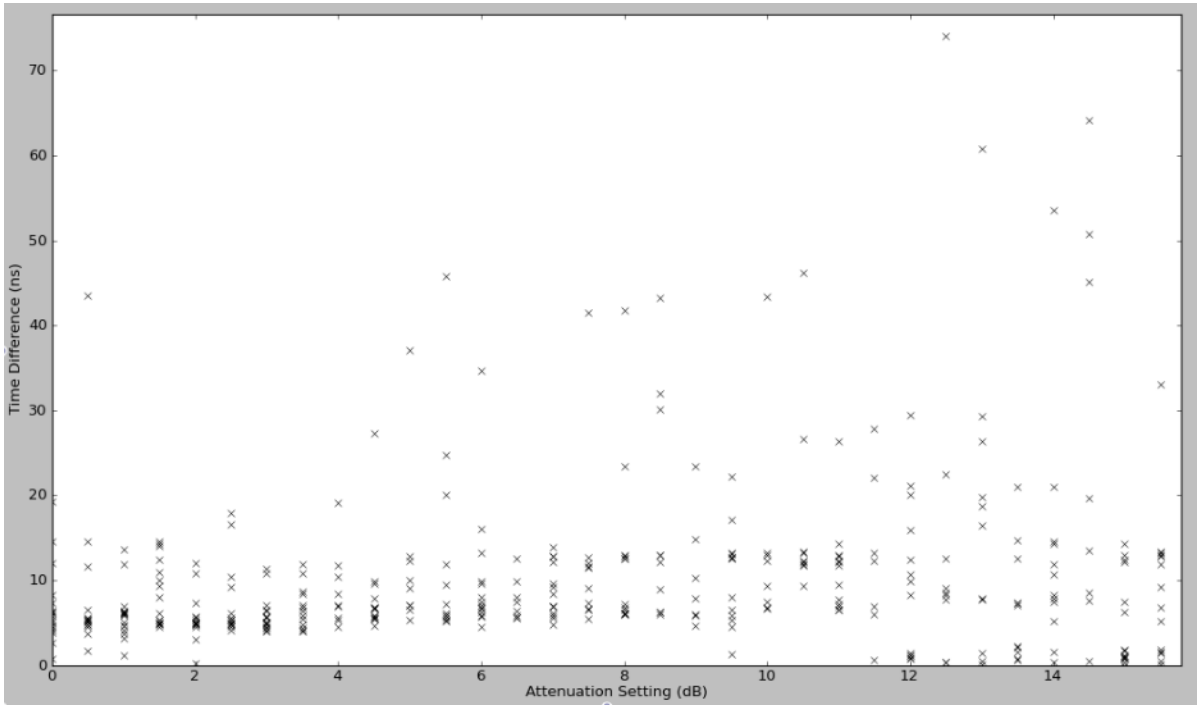
- A prototype amplifier has been made and tested.
- Tested with each diode similar to last year.
- 6018 saturates early and has a lower maximum input voltage.
- 301S and 201S are linear after about 100mV up to at least 2.2V.
- Amplifier gives gain of about 1.8-1.9 which is consistent with theory.
- 50Ω resistor at amp output can be removed to ncrease gain.
- 301S on reference with ~20dB attenuation.
- Cable needed.

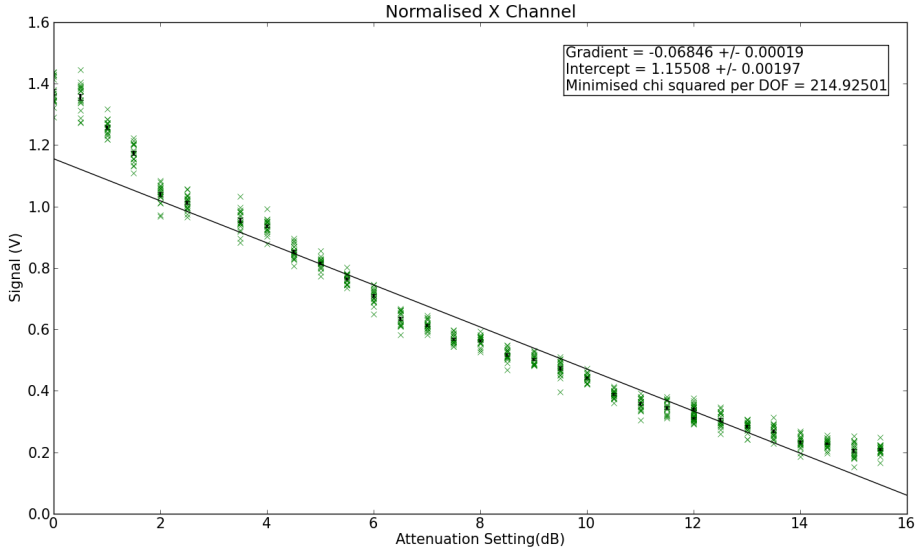




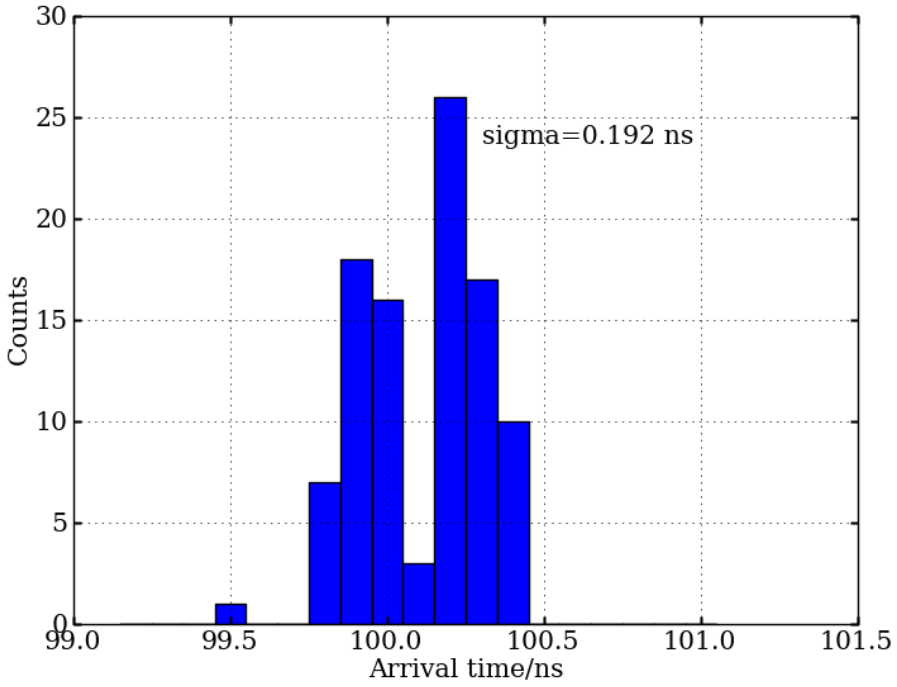
Attenuator

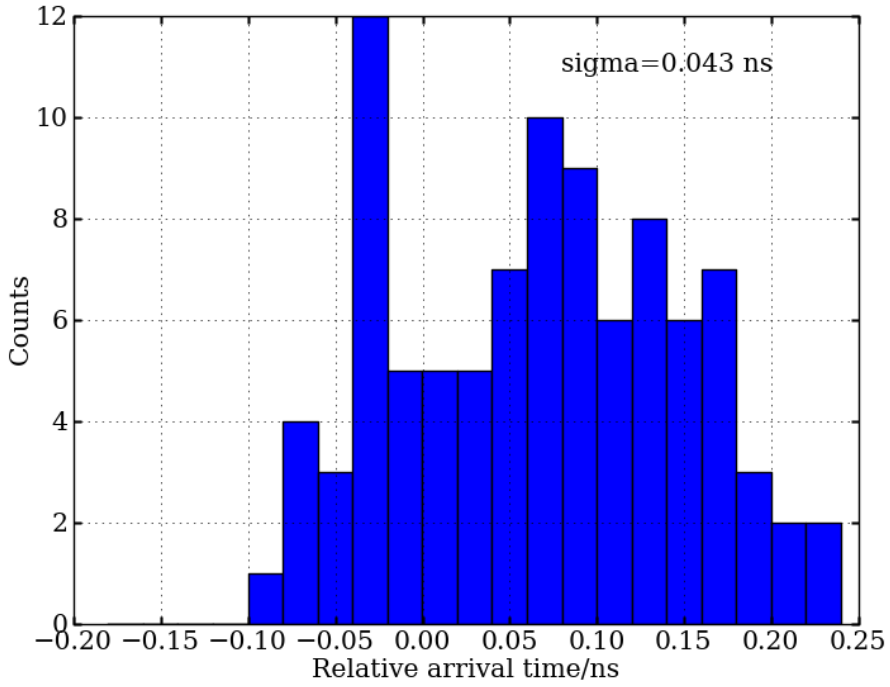
- Measured the arrival times of pulses and plotted difference between dipole and reference against attenuation
- After removing anomalies there does not seem to be any correlation
- More spread for higher attenuation.
- Adjusted sample DDC sample time based on arrival time.
- Does not remove the fluctuation seen before.





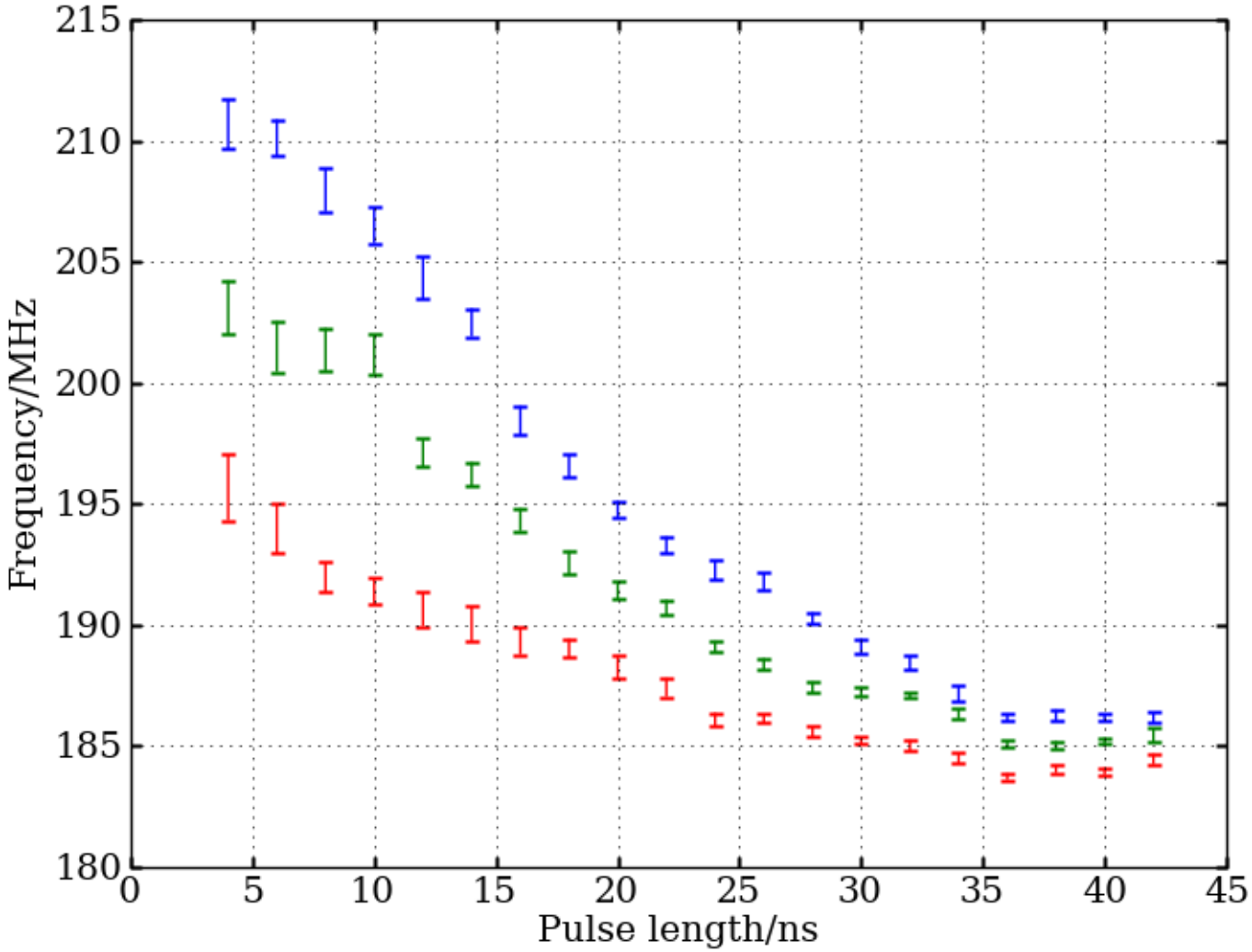
Arrival Time



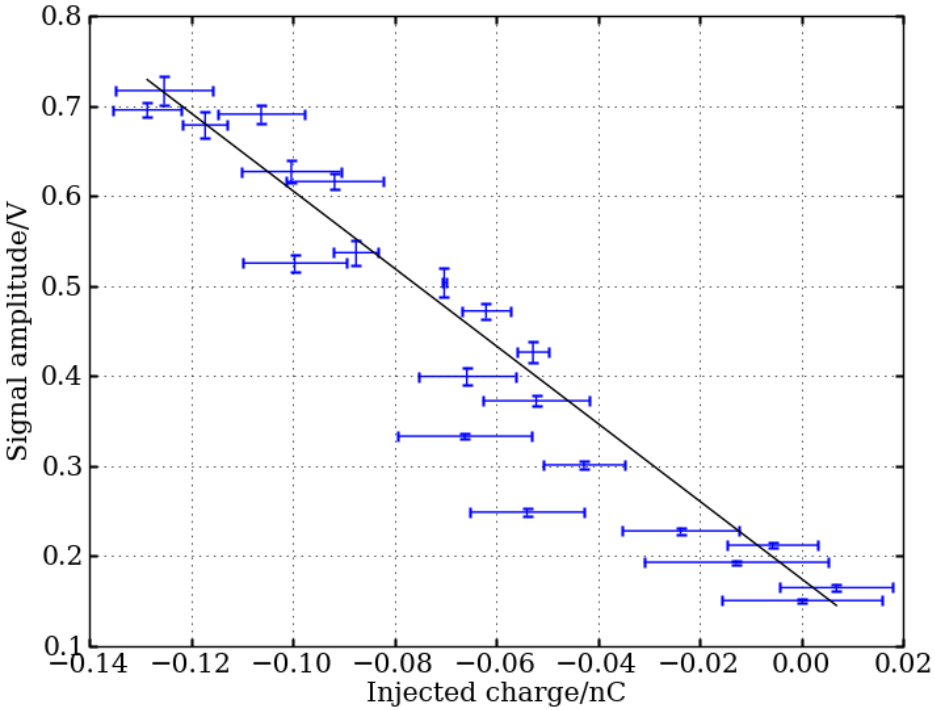


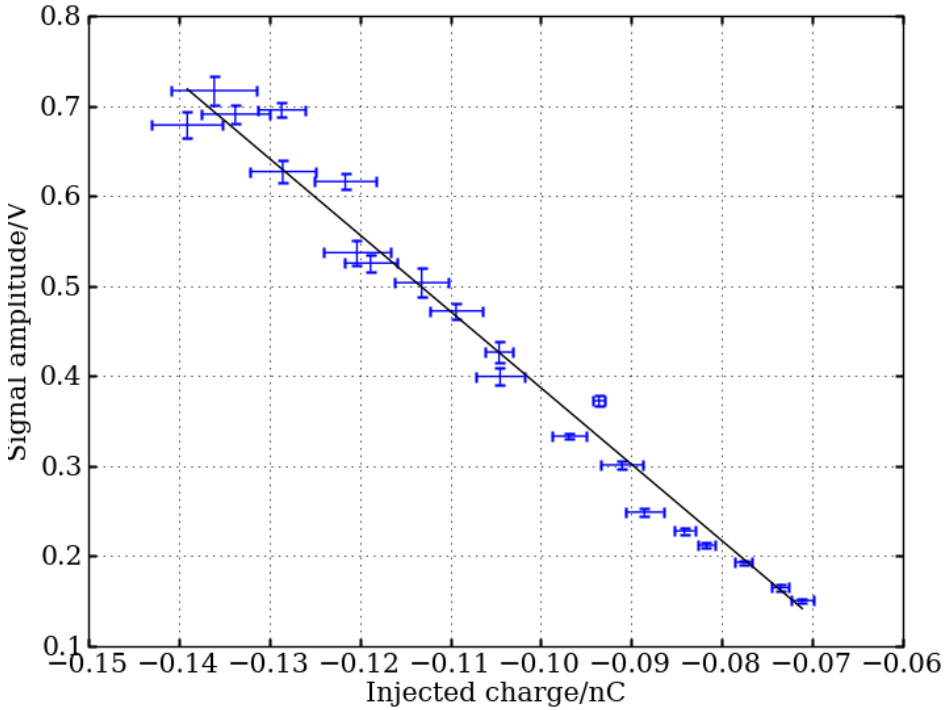
0.192 ns corresponds to 0.002 radians of phase change for a frequency difference of 10 MHz

Pulse Length



Charge Sensitivity of Reference Cavity





From wall current monitor: 32.7+/-1.7 V/nC
From BPM diode: 64+/-6 V/nC
From Ace3p and CST: 52 V/nC