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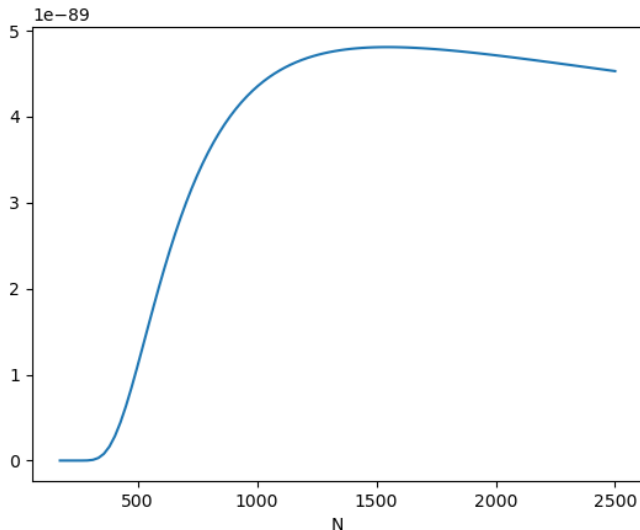
March 24, 2022

1 Using a log normal distribution

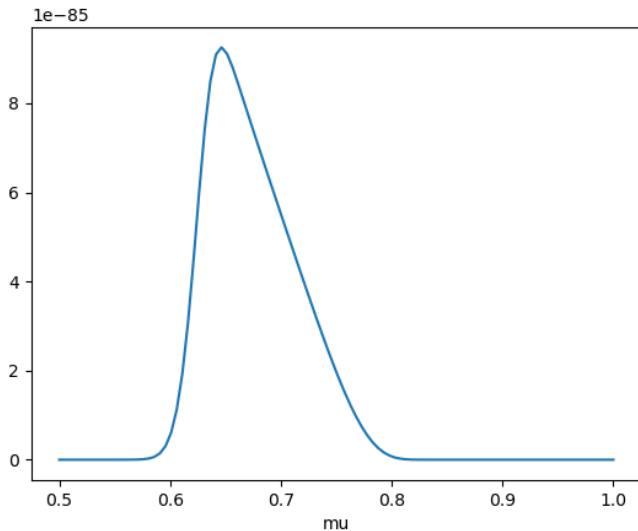
Using SNR in place of flux

- In the radiometer equation $SNR \propto flux$
- Can replace flux with SNR and it should be okay
- Fluxes are hard to get for CHIME, and they have large error bars.
- SNR does not have/has negligible error bars as it is a direct consequence from our data

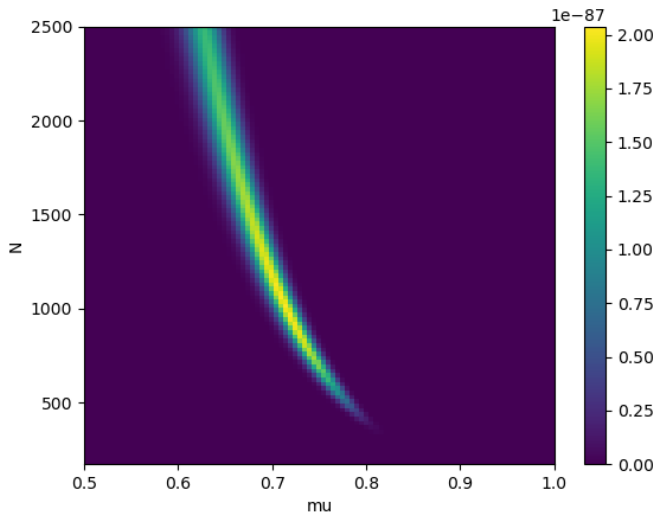
Log normal distribution $\mu = 0.7$ $\sigma = 0.1$ (simulated bursts 1250, detected bursts ~ 100)



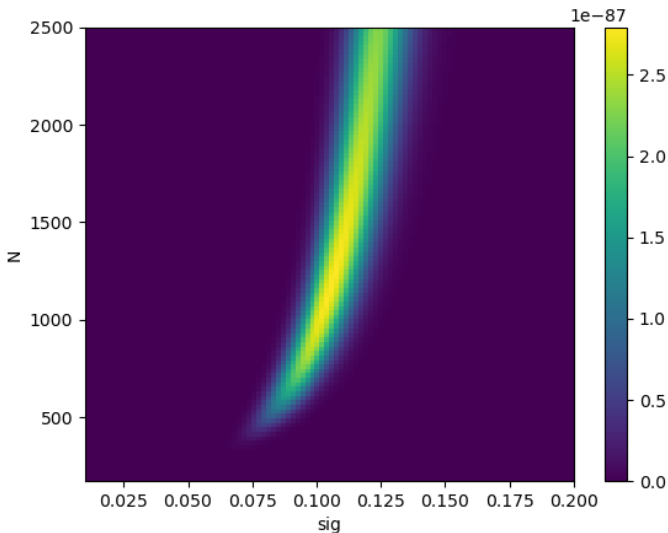
simulated $\mu = 0.7$



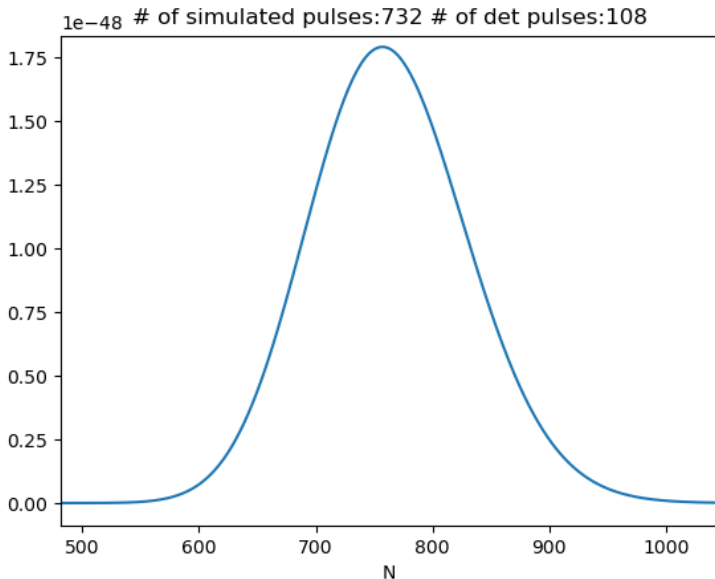
Contours ($\mu=0.7$)



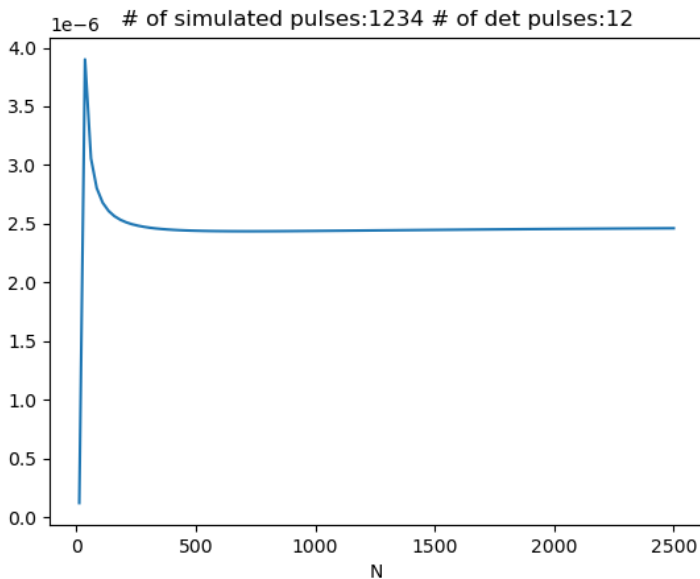
contours (sig=0.1)



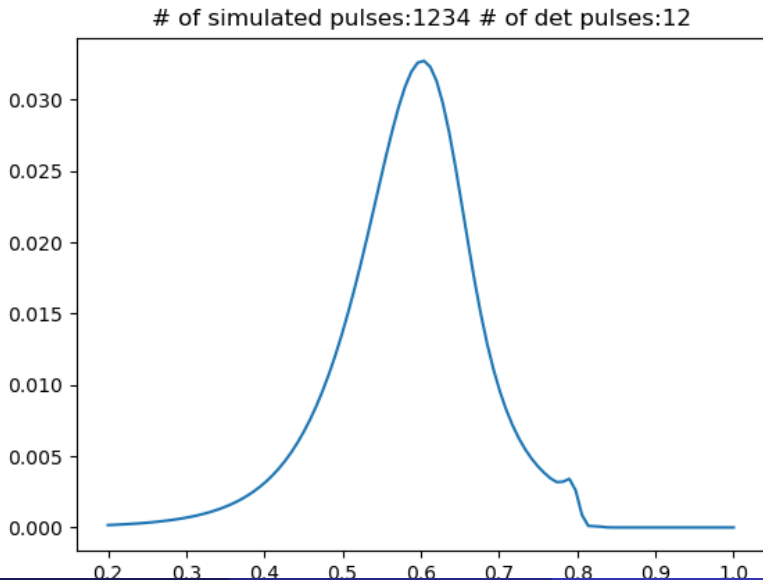
fixing mu and sigma



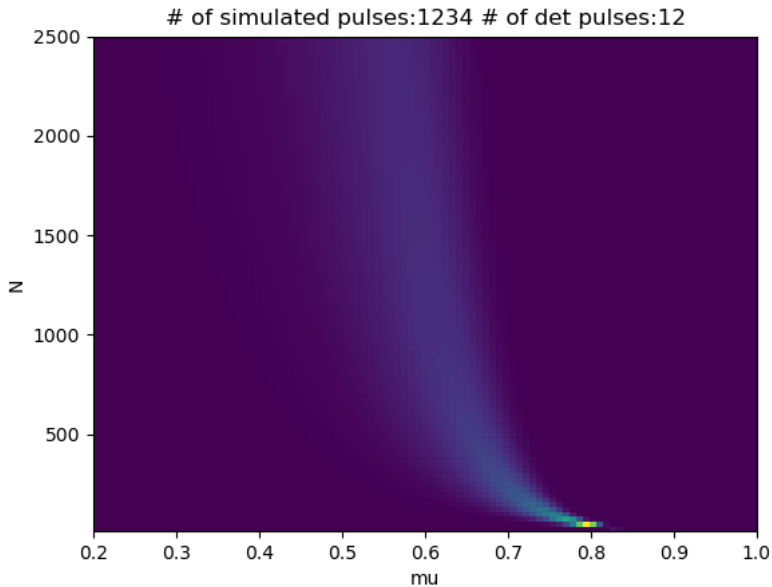
$\mu=0.55$ $\text{std}=0.1$



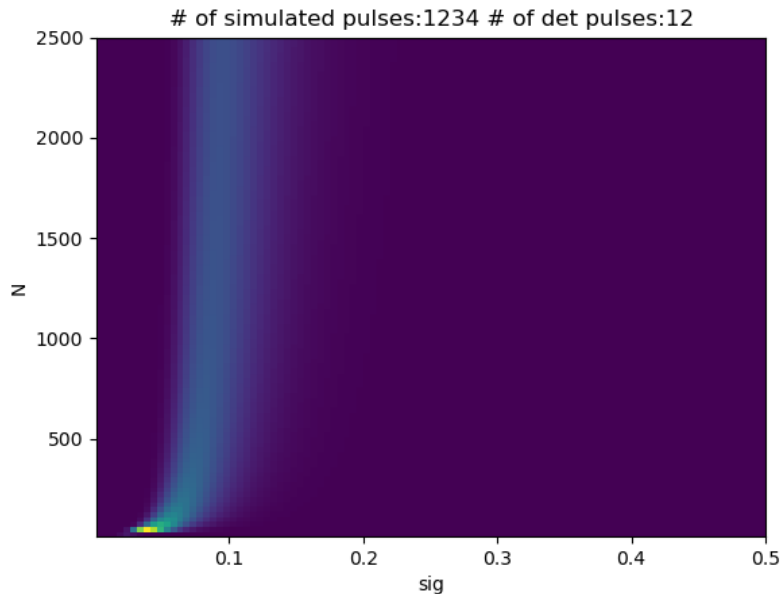
$\mu = 0.55$ $\sigma = 0.1$



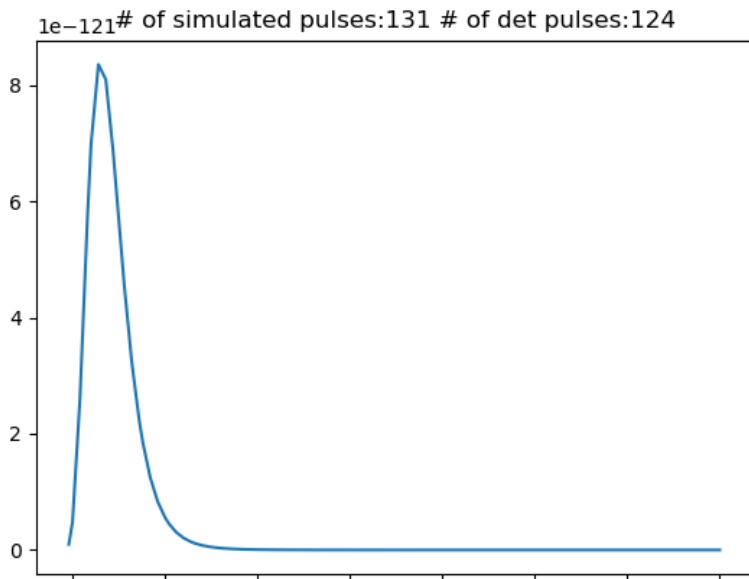
$\mu_u = 0.55$ $\text{std} = 0.1$



$\mu=0.55$ $\text{std}=0.1$



$\mu=1$ so we detect every pulse



$\mu=1$

