Analysis of Inspiral Hardware Injections

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for
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G050448-00-Z

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Preliminary studies .....

Excess Power Triggers (Start: 791599805 GPS Seconds)
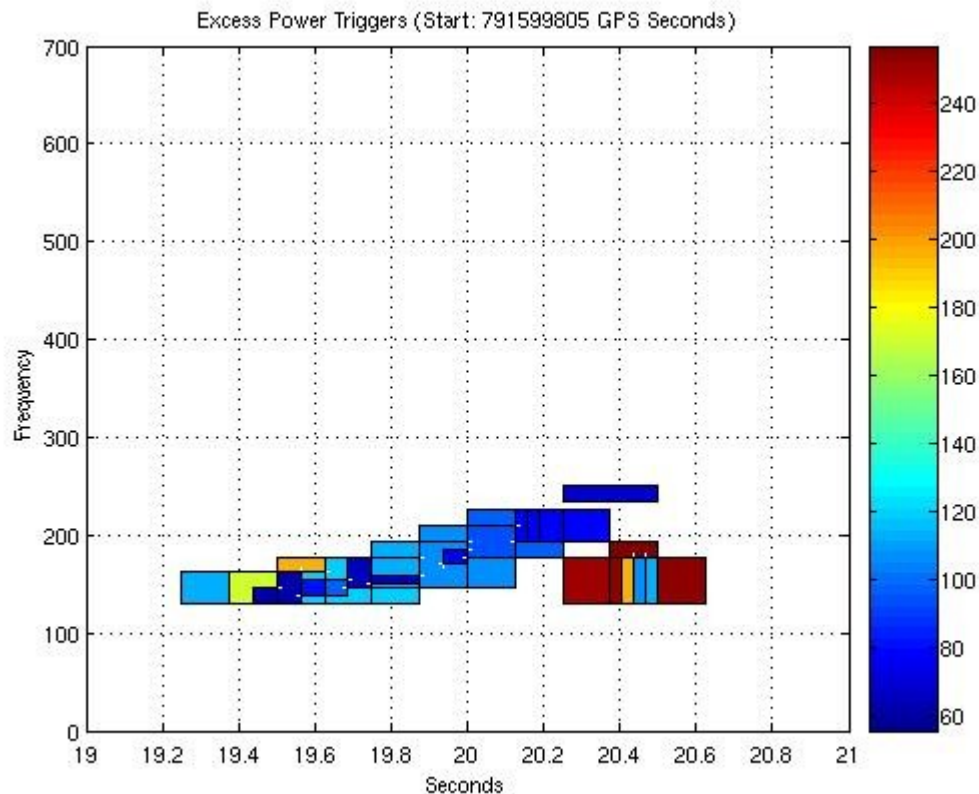
- Steve Fairhurst (mostly) plus others helping out ...
- In E12, we tested for problems with hardware injections caused by sudden end of injection signal
- Chirp signal ending at innermost stable circular orbit frequency
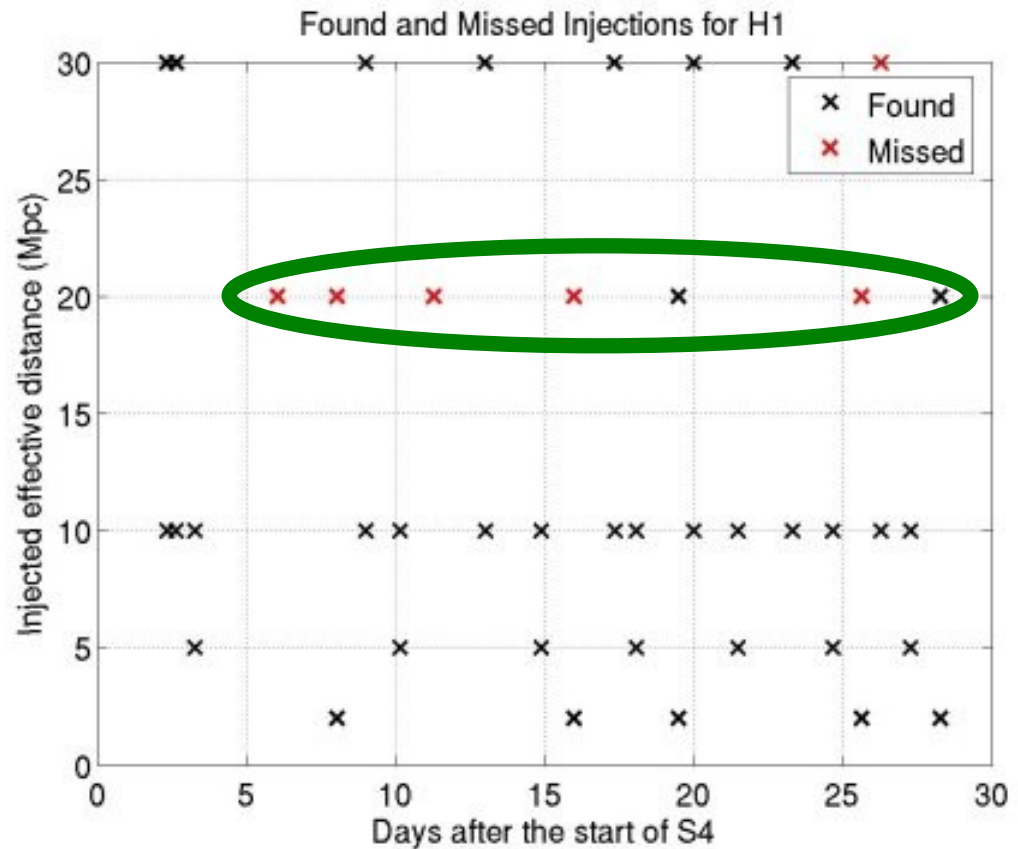- Preliminary results with more plus veto safety studies

Generated using excess-power by Cannon & Ray-Majumdar

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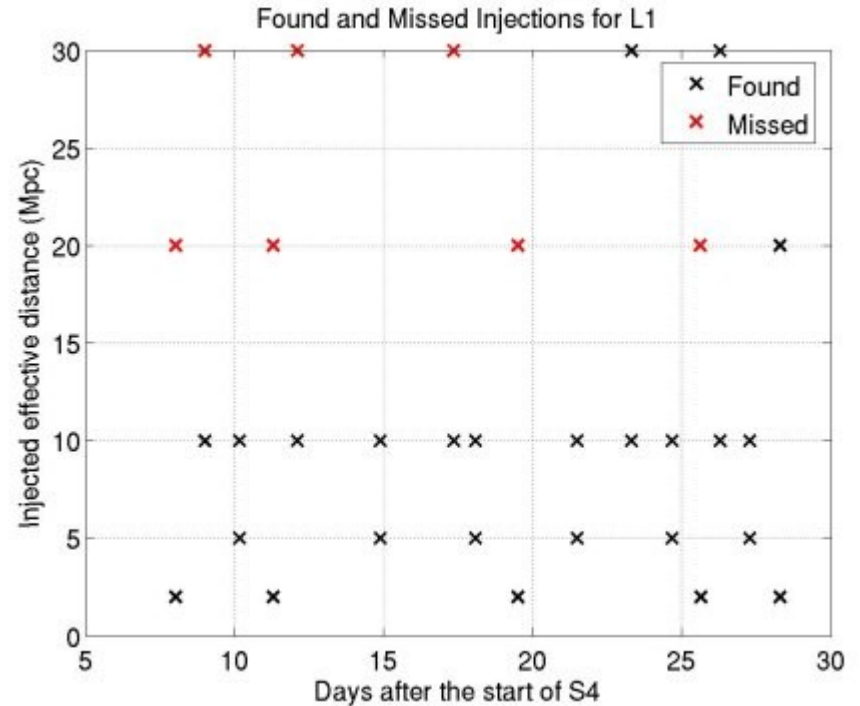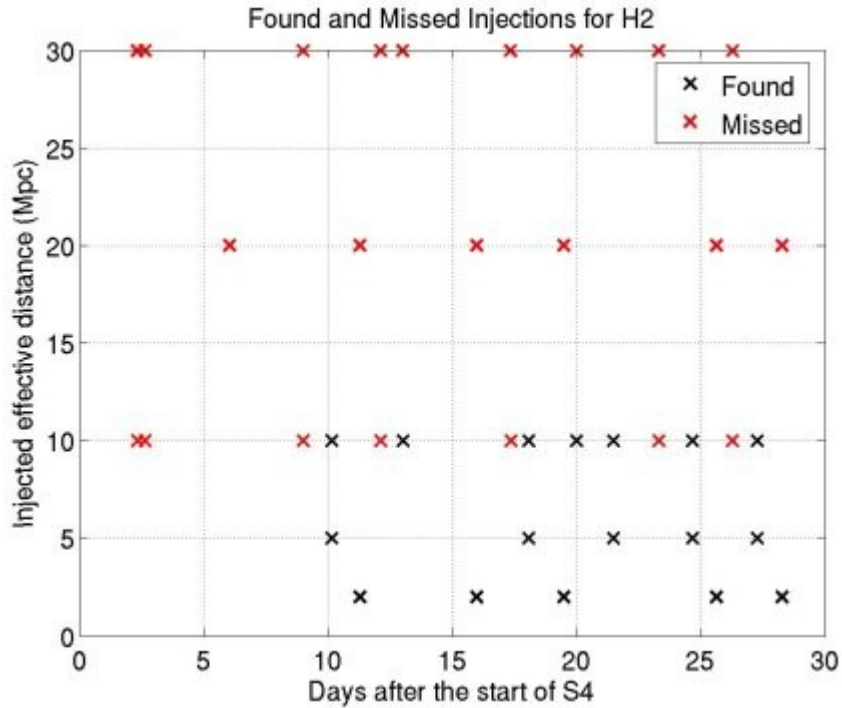Excess Power Triggers (Start: 791599005 GPS Seconds)
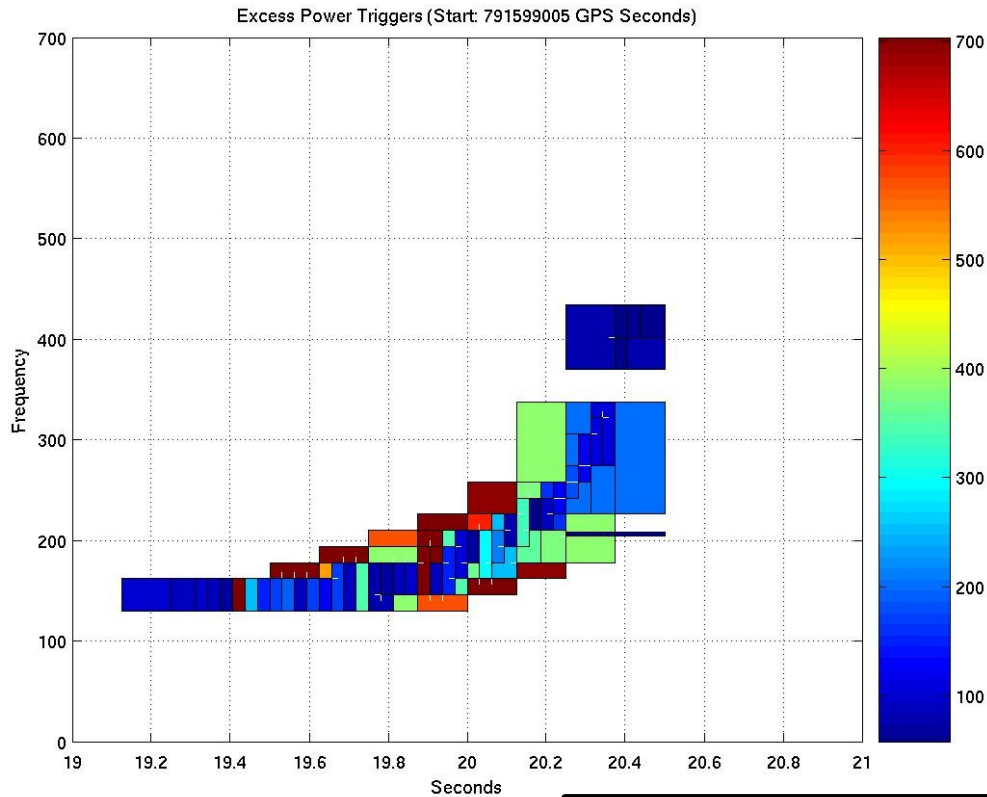
- Chirp signal forced smoothly to zero amplitude at innermost stable circular orbit frequency

Generated using excess-power by Cannon & Ray-Majumdar

- four 1.4-1.4 at 2, 5, 10, 20 Mpc
- two 3.0-3.0 at 10, 30 Mpc
- three 10-10 at 20, 40, 60 Mpc

Found and Missed Injections for H1

Found/Missed H2 & L1

Found and Missed Injections for H2

Found and Missed Injections for L1

Accuracy

Ringdown Search run on Sine-Gaussian Hardware Injections

- ## S4 Hardware & Software injections
  - » Sine Gaussians, f = 235Hz, Q = 9

  Lisa Goggin &
  Duncan Brown

- ## Templates:
  - » One template: f = 235 Hz, Q = 9
  - » Full template bank: 50 < f < 2000 Hz, 2 < Q < 20

hpeak x 10^-20	Only one template		Full template bank	
	snr sw inj @ 235	snr hw inj @ 235	snr hw inj @ f=233.25	snr hw inj @ f=236.63
0.6803	9.7344	9.2555	8.8433	8.7187
1.3606	18.7911	18.6777	17.557	17.8809
2.7212	37.0778	32.2274	30.4733	30.8240
5.4424	73.745	63.006	60.993	60.736
10.884	145.2	130.103	123.471	123.667

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