Implosion Calibration

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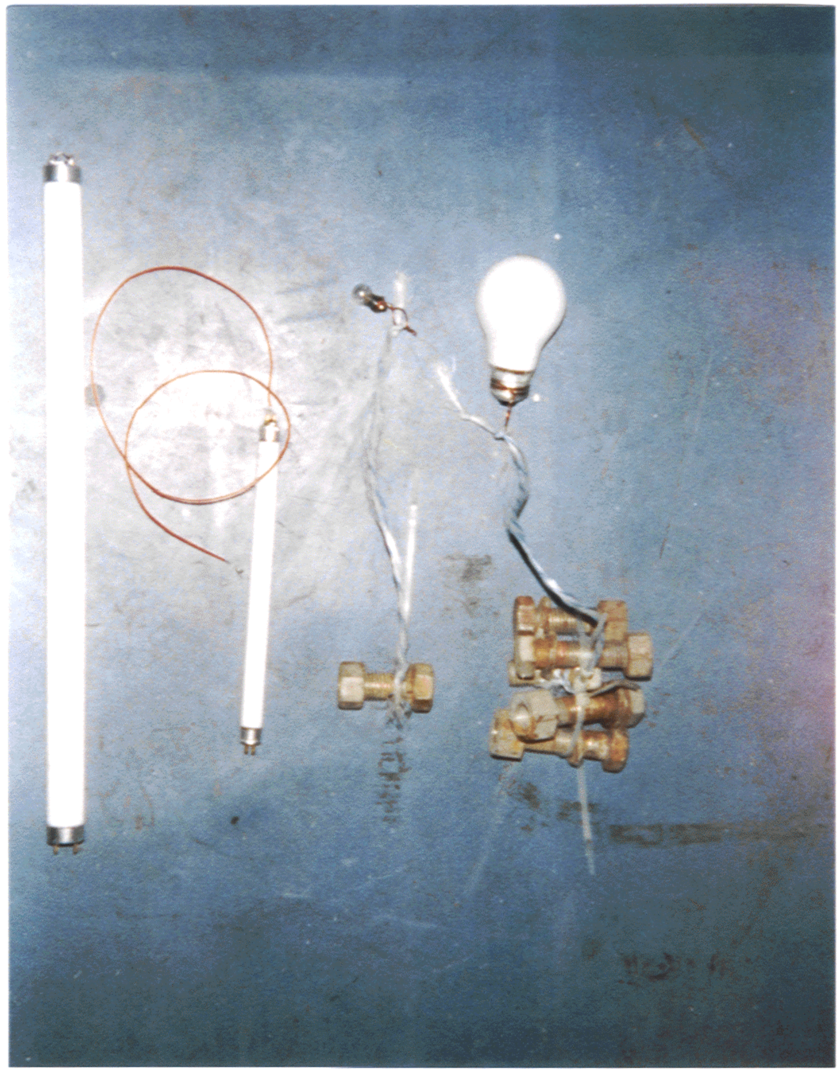
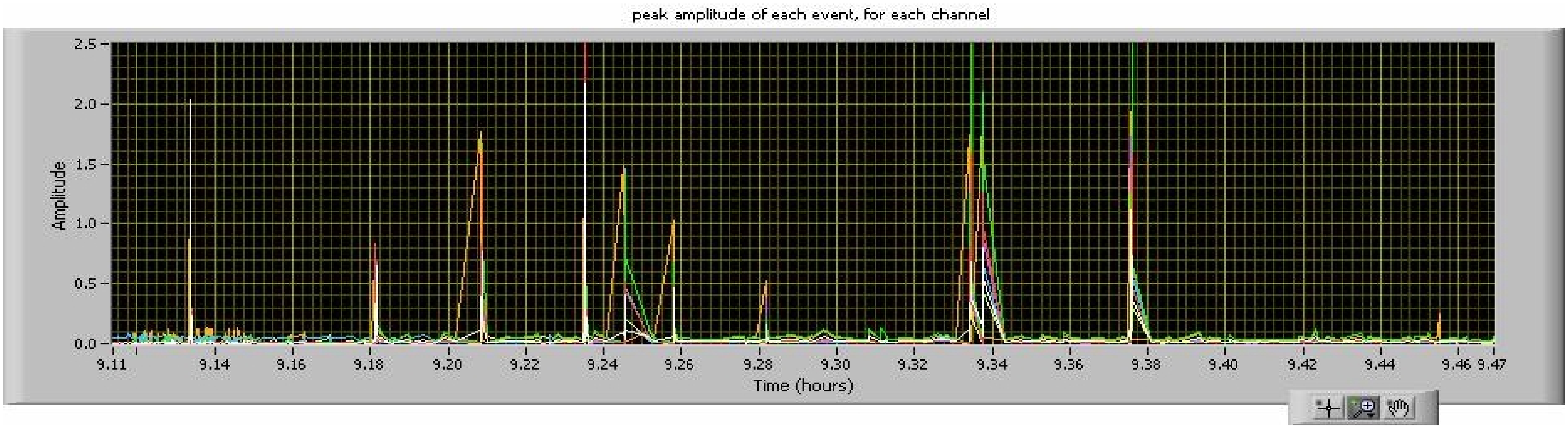
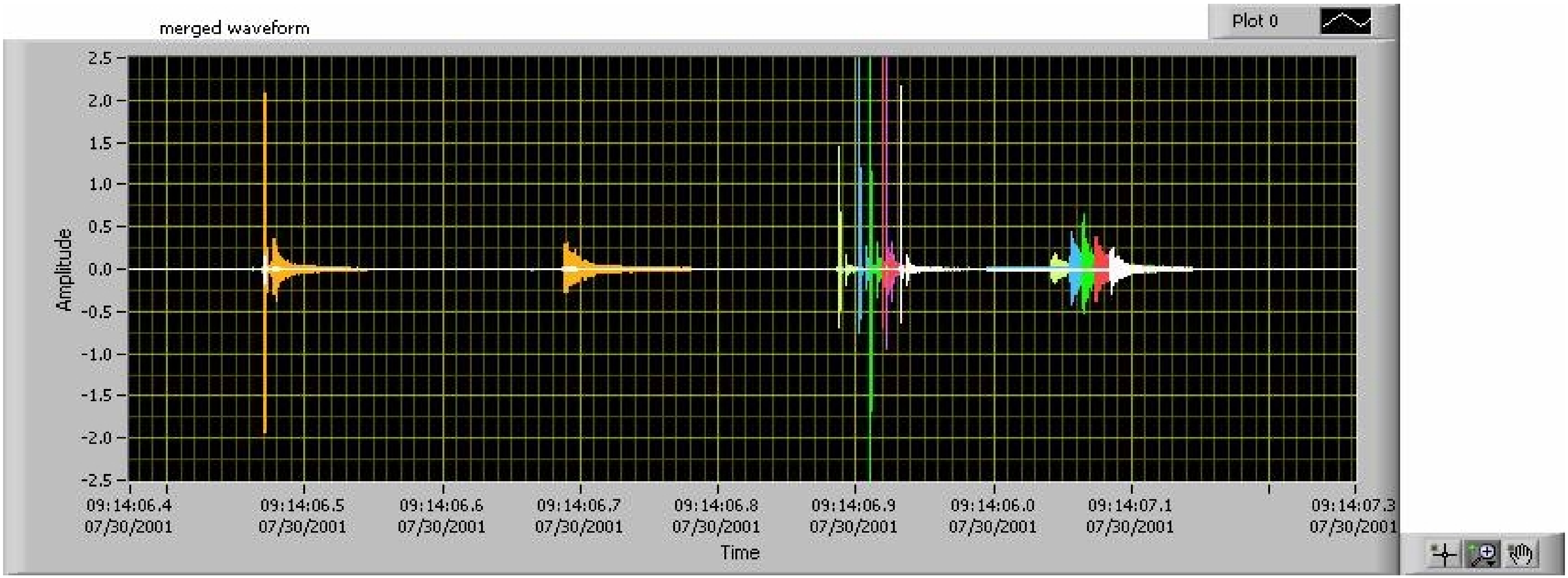
The calibration light bulbs



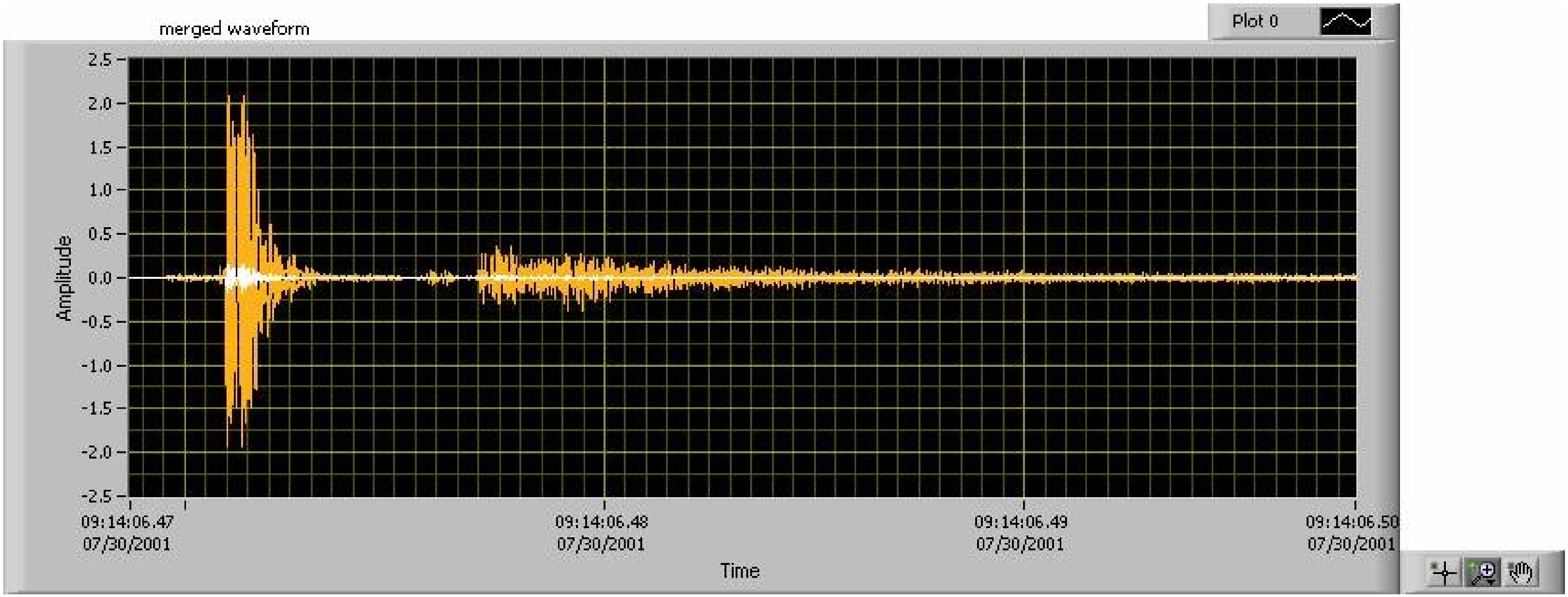
Ten 60 watt implosions



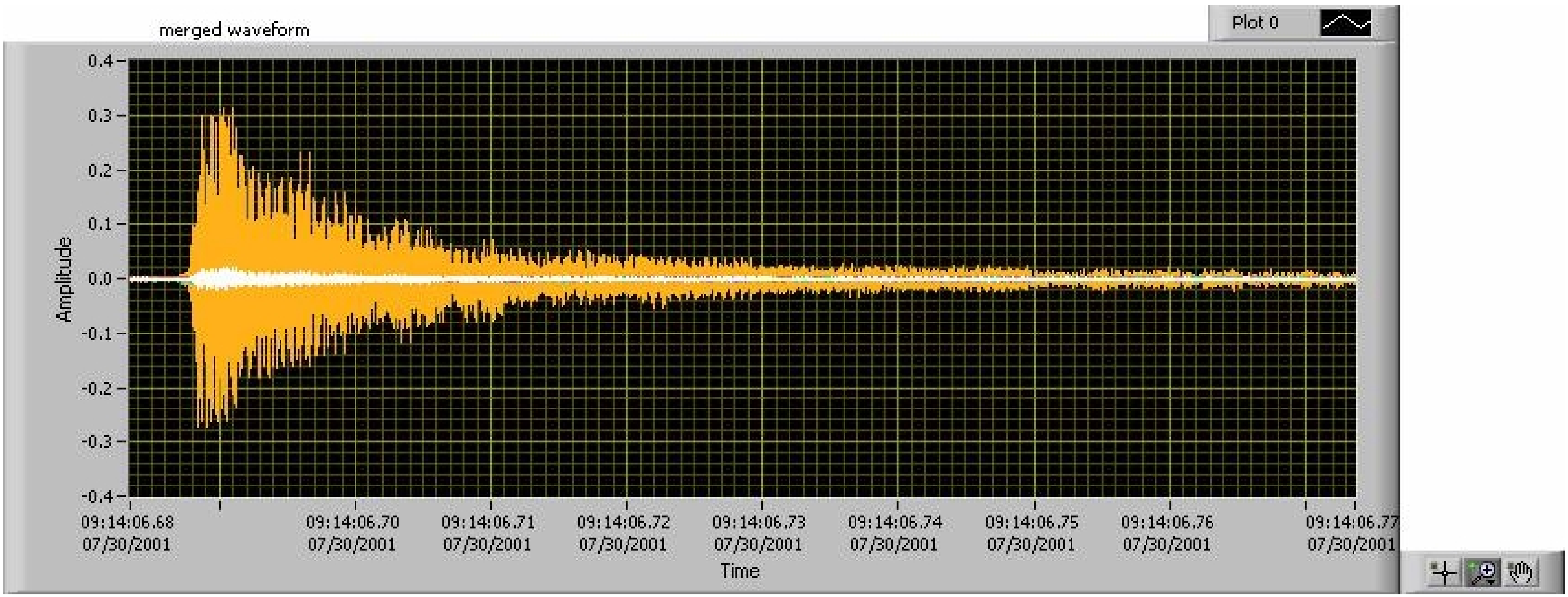
One implosion



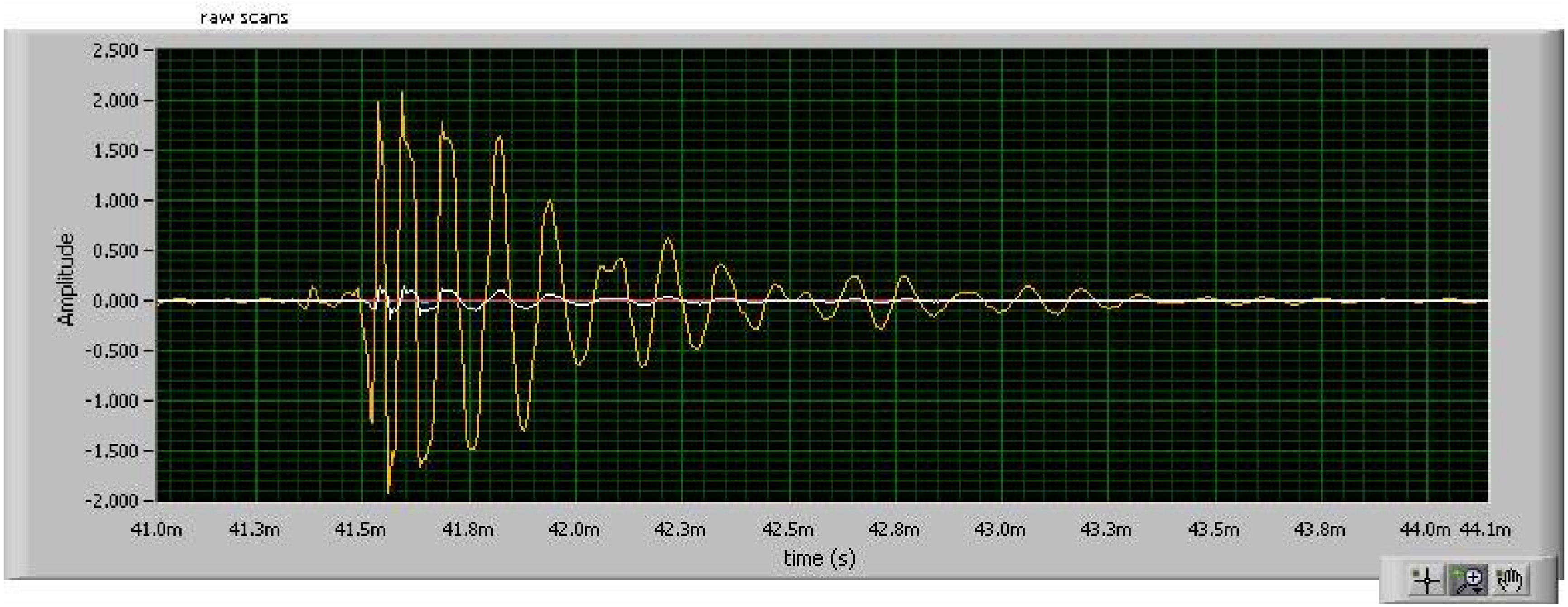
Central hydrophone initial signal



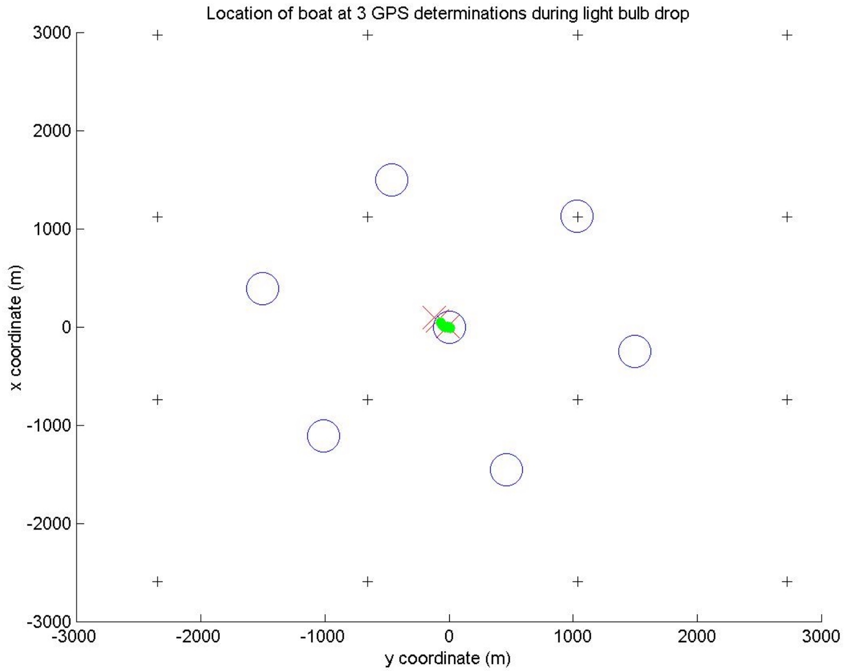
Surface reflection

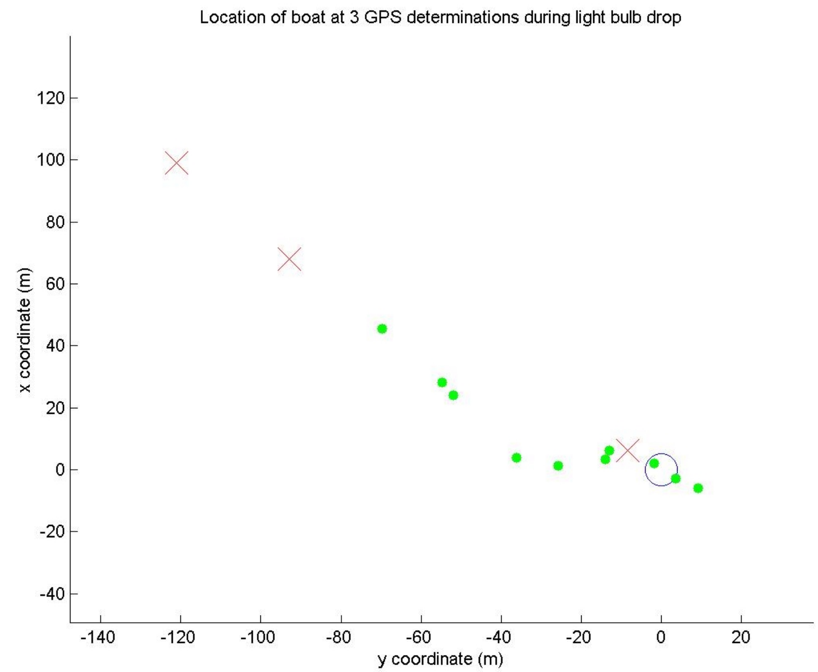


Close-up of initial signal



Boat (GPS) and bulb (reconstructed) coordinates

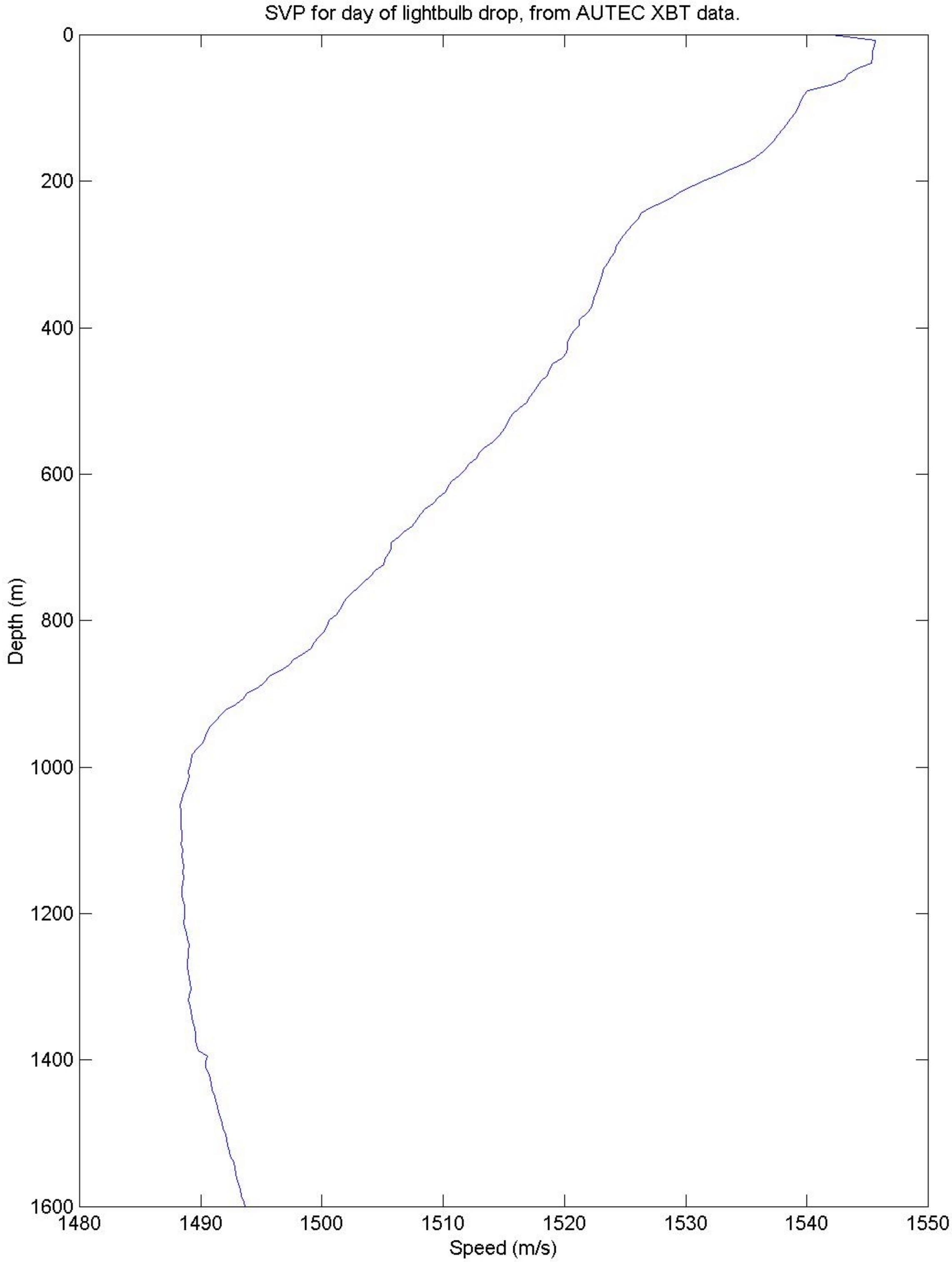




Reconstructed implosion depths

bulb	depth (m)	P (kPa)	E0 (J)
1	160	1563	234
2	107	1047	157
3	139	1360	204
4	166	1626	244
5	126	1237	186
6	101	990	148
7	86	838	126
8	135	1324	199
9	188	1842	276
10	290	2846	427

Sound Velocity Profile, 7/30/01



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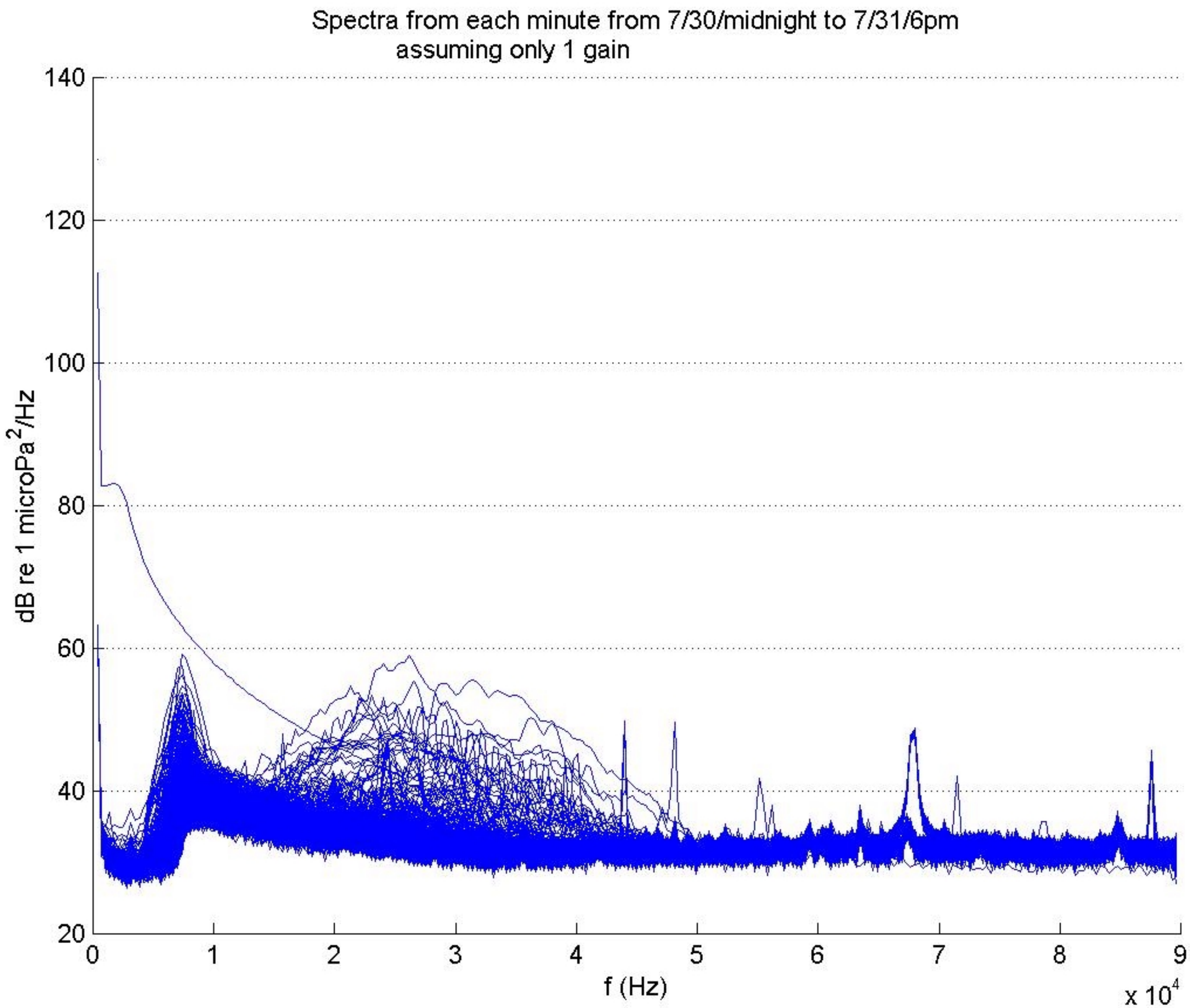
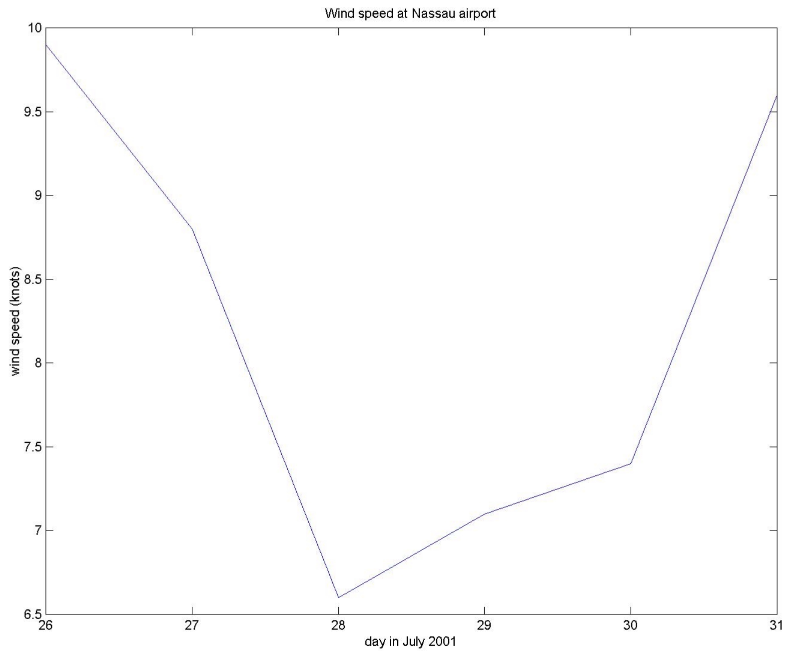
Spectra from every minute for two days

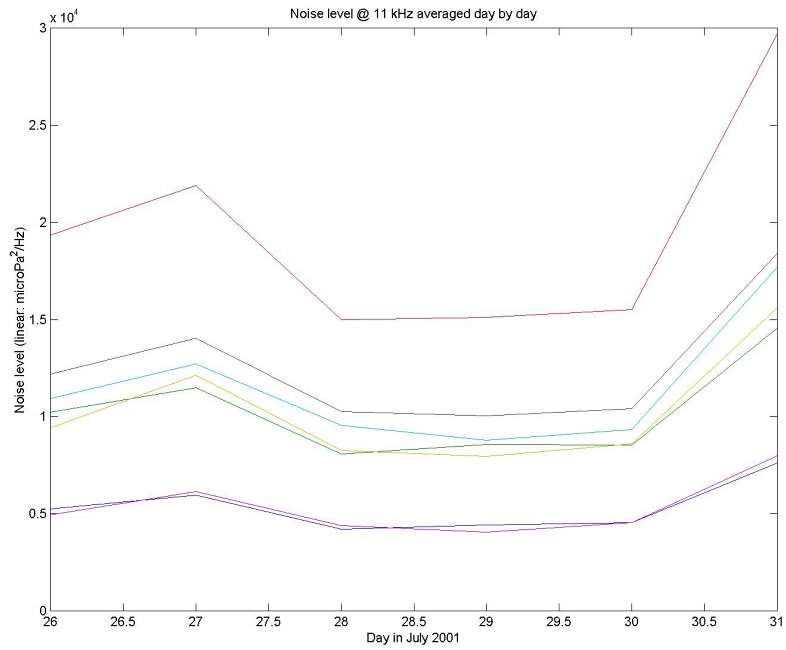


Wind and Noise

Wind speed at Nassau airport

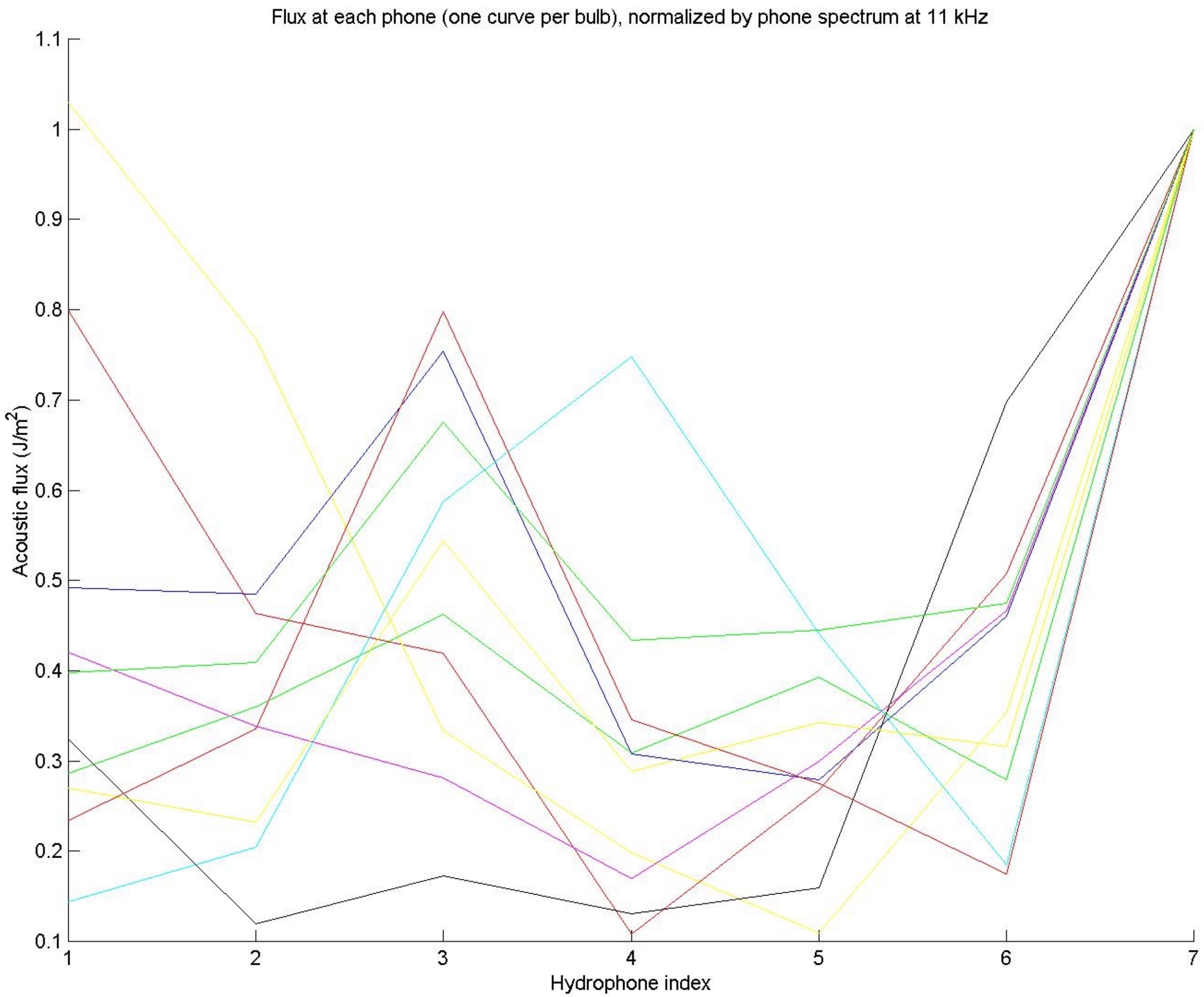


Noise at each phone



Flux at each phone, for each bulb

Normalized by noise level and flux at central phone



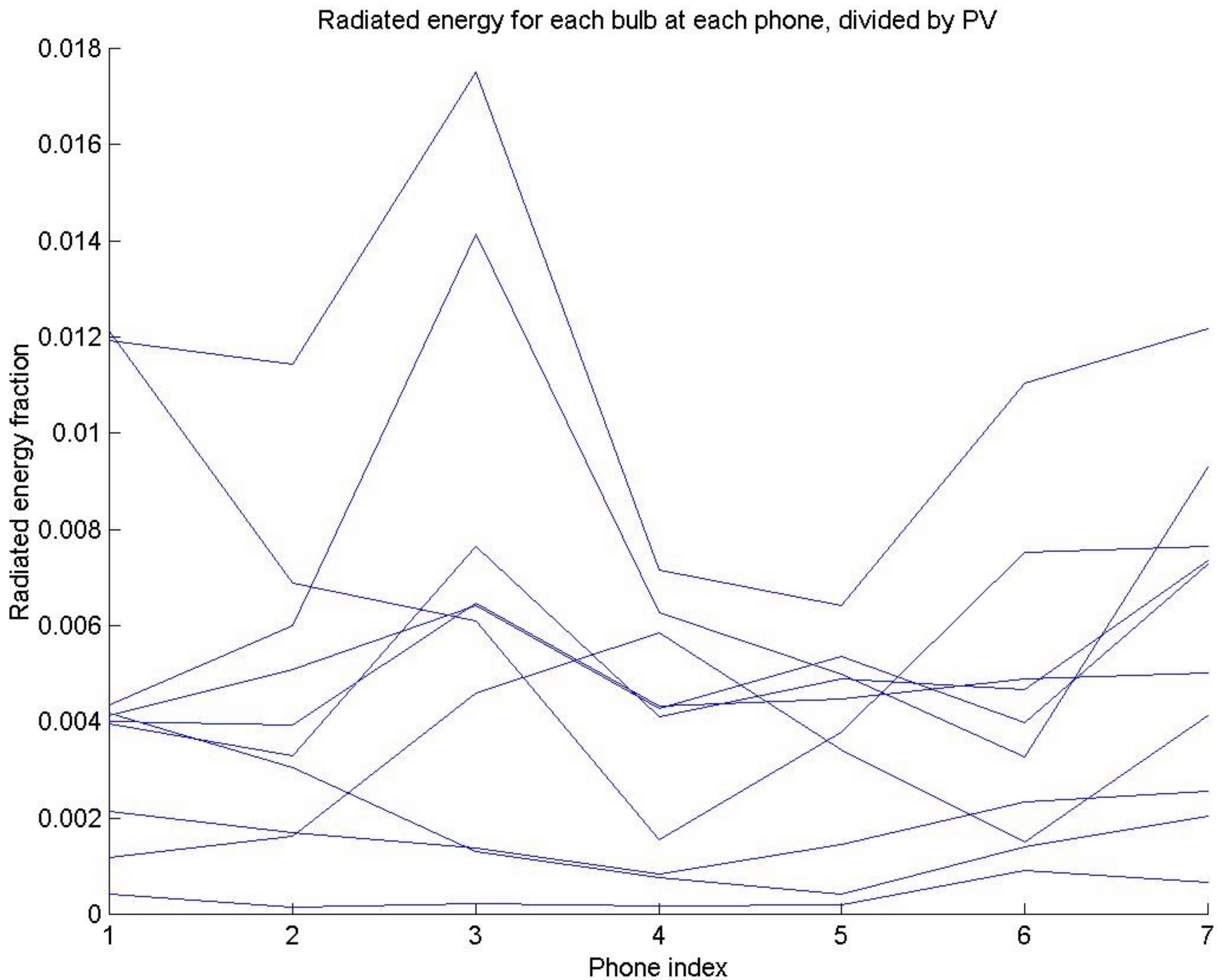
Ring/Center energy disparity

(average of radiated energy at ring phones) / (that at center phone):

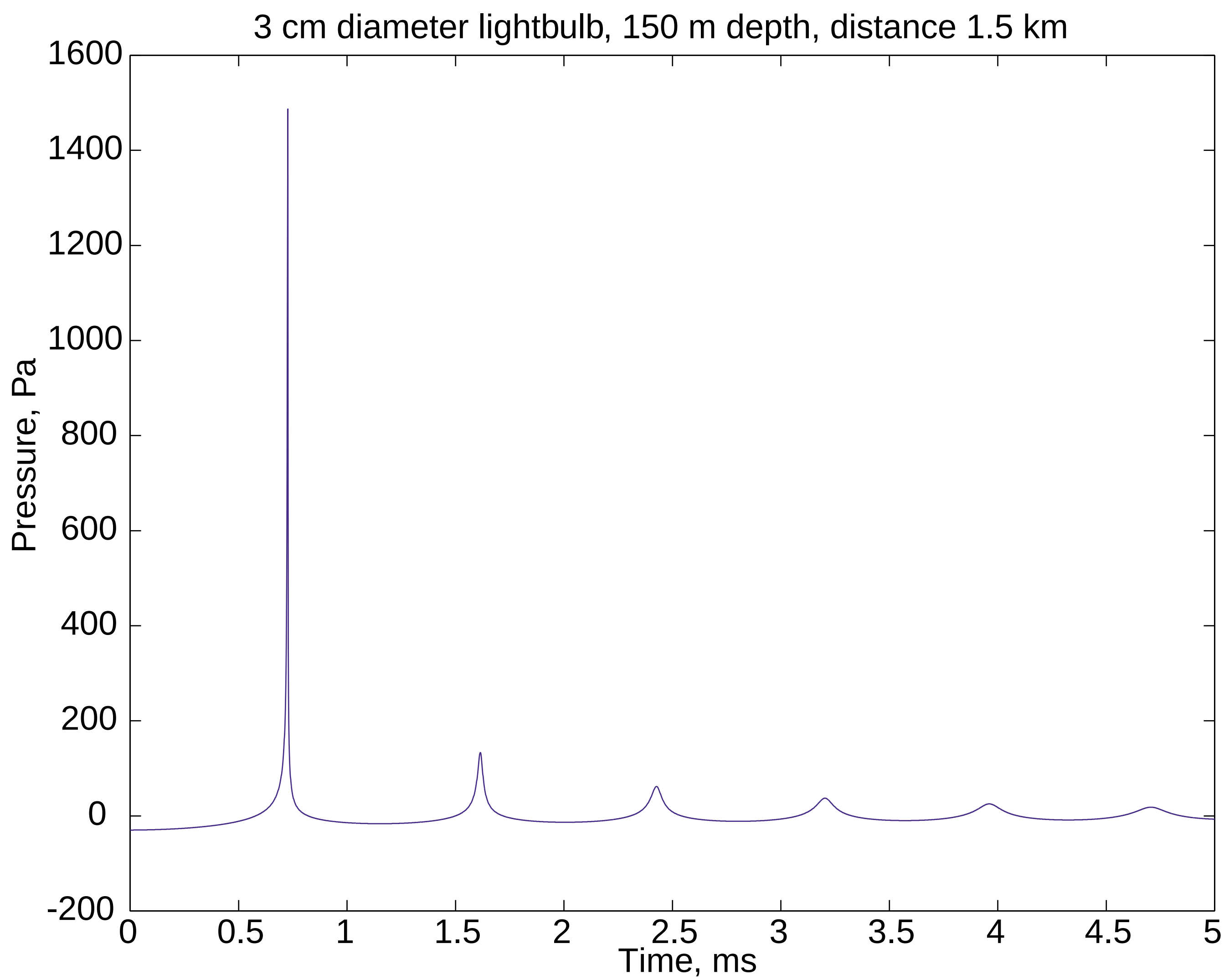
Bulb	Ratio
1	0.82793
2	0.90607
3	0.6692
4	0.89535
5	0.73585
6	0.63729
7	0.52013
8	0.69951
9	0.64673
10	0.93207

Average: 0.75

Radiated energy disparity



Theoretical calculation of a pulse from a lightbulb implosion



Integrated spectral power of a lightbulb pulse: theoretical prediction and experimental data