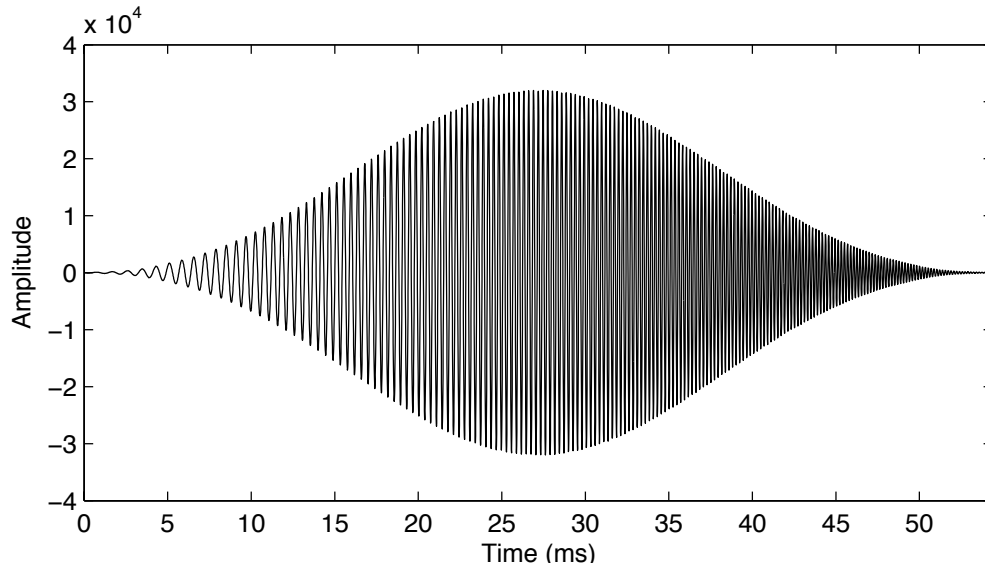
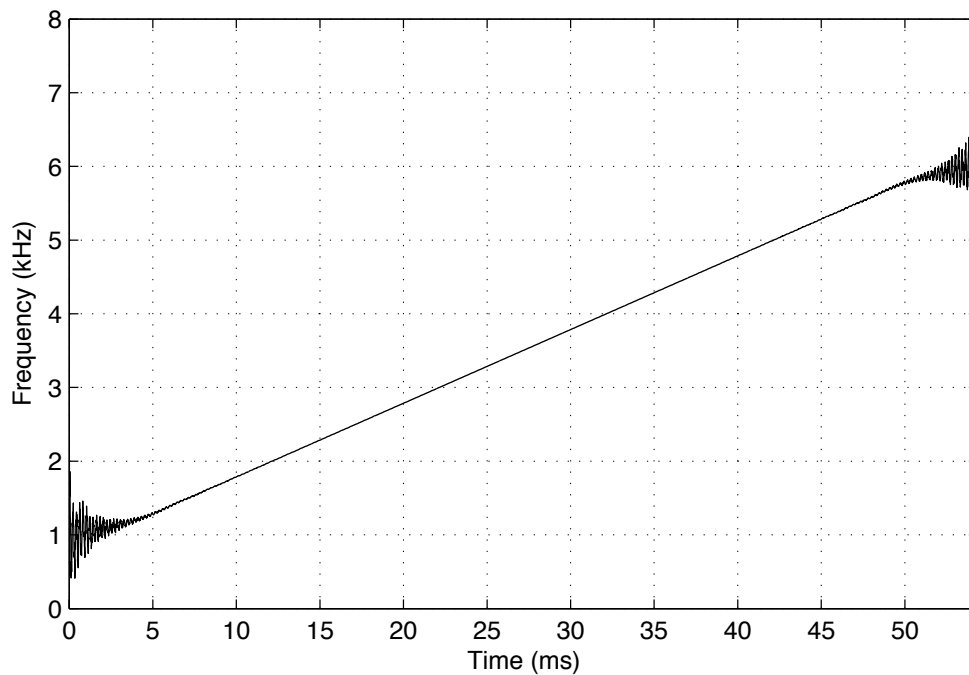


### Edgetech L source

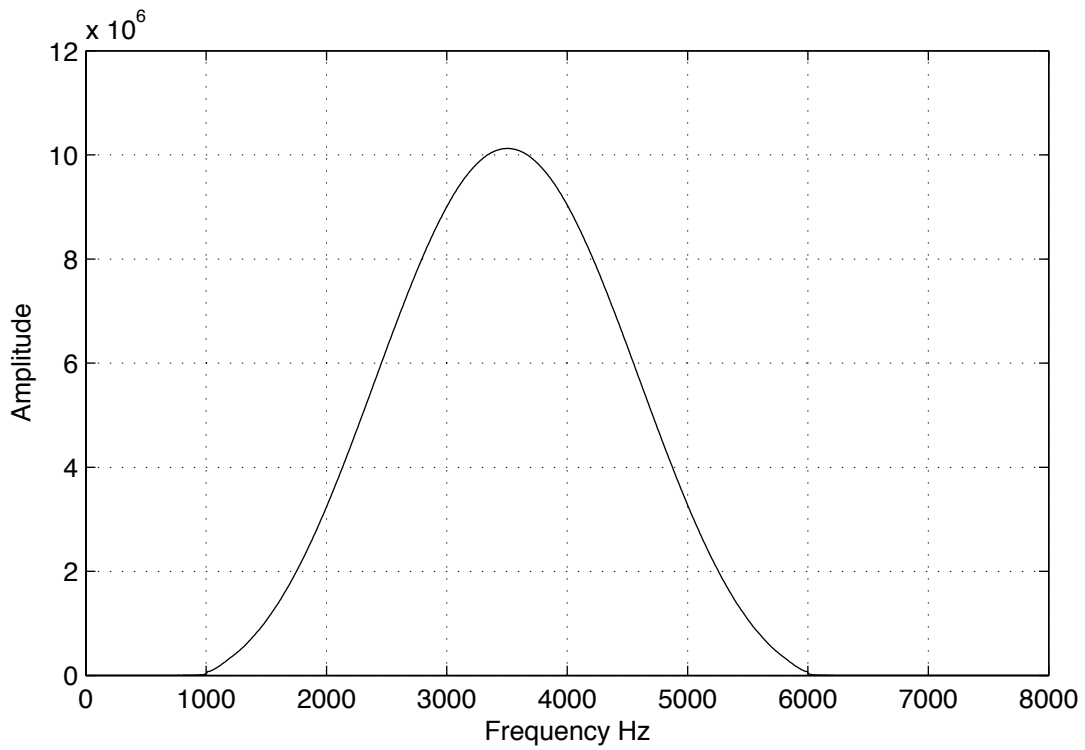
These plots are based on a recording of the Edgetech L-source supplied by Neal Driscoll. The L-source is a linearly frequency modulated (LFM) source over the frequency band 1-6 kHz and a nominal duration,  $T$ , of 50 ms. The actual duration as recorded is ~54 ms, and includes a start up and shut down phase where the frequency is approximately constant and the amplitude is low. The windowing function for the signal is approximately:—  $w(t) = \sin(2\pi t/T)^{2.5}$  for  $0 \leq t \leq T$



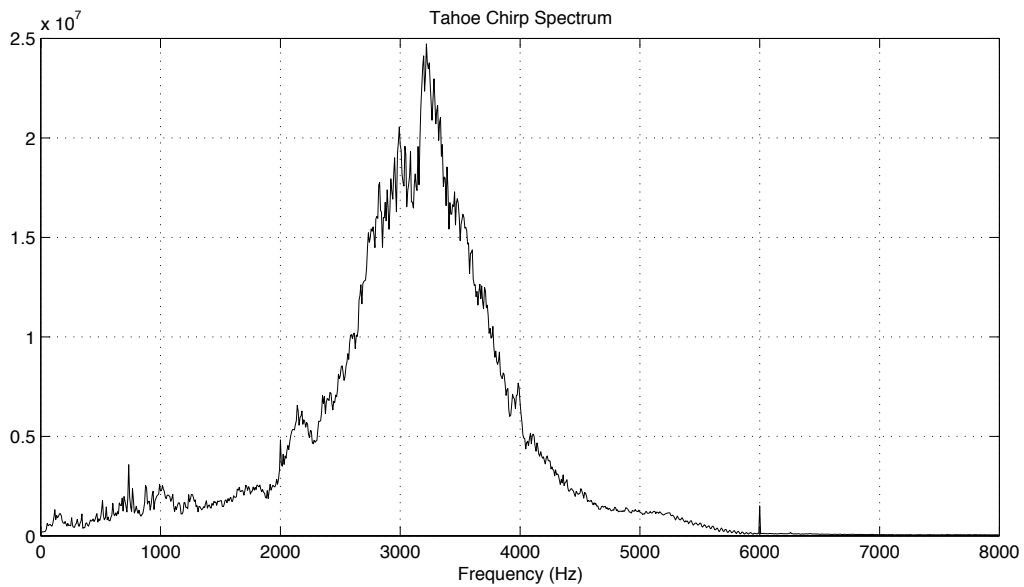
*Recorded L-source signal*



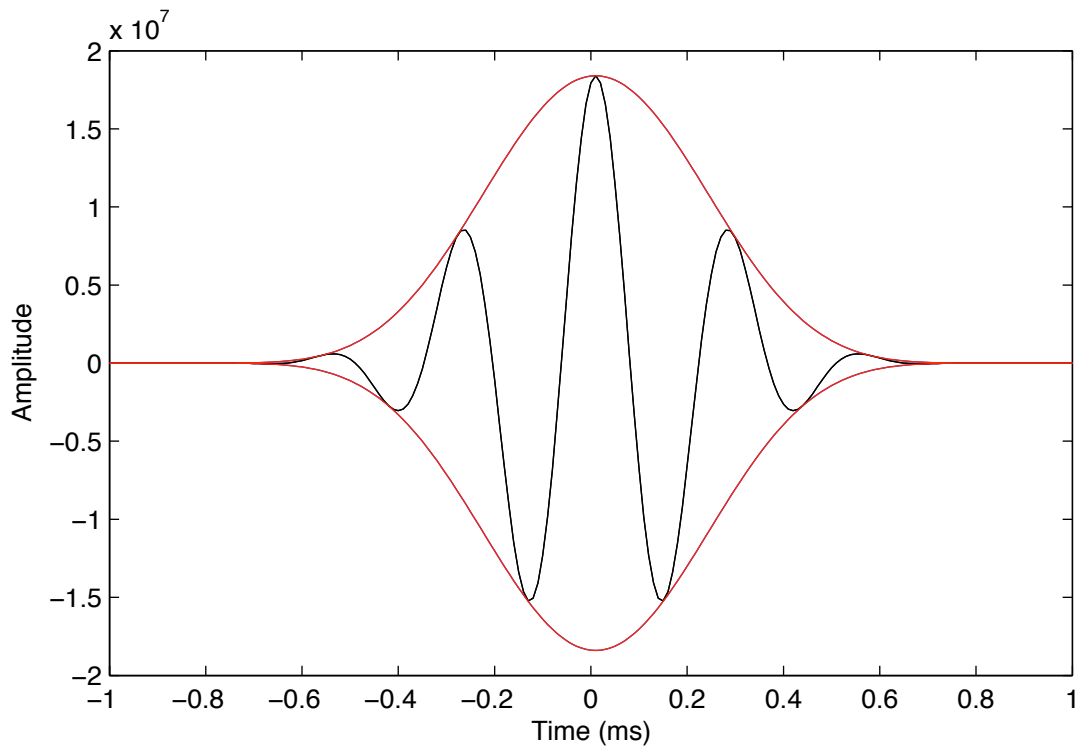
*Frequency of pulse estimated from first difference of phase, showing start up and shut down*



*Spectrum of L-source.*



*Spectrum of reflected signal from Agate Bay in Lake Tahoe using the L-source. Signal recorded by an L-cheapo sampling at 16 kHz, suspended in the water column.*



*Cross-correlation of L-source with complex envelope. Although the nominal bandwidth of the source is 5 kHz, suggesting a cross-correlated pulse width of 0.4 ms, the actual bandwidth is closer to 2 kHz, yielding to a pulse width of ~ 1 ms. and an increase in amplitude of ~50.*