voltages for each gage at each elevation were stored in the PDP-11. The raw elevation vs. voltage data was used to calculate the coefficients of a fourth order curve to account for any subtle nonlinearities in the gage response. A typical calibration curve with the calibration data points is shown in Figure 5.2.

Gages were calibrated at the beginning of a laboratory session. They were recalibrated when the difference in voltage between two gages in the same array, at still water, drifted 0.1 volt, translating to a mean water shift of approximately 0.05 cm, from the reading at the previous calibration. This would keep gage error to less than 5 percent for a 1 cm (typical) wave, which is less than the amplitude of the measured electronic system noise.

The PDP-11 was programmed to simultaneously sample the voltage output of each gage circuit for 2048 points at a frequency of 10 Hz. (Simultaneous sampling is suggested although the computer can sample only one circuit at a time, the time difference between the samples of adjacent gages being considered negligible.) A frequency of 10 Hz was adequate since the range of wave frequencies was between 0.4 and 1.6 Hz allowing measurement of at