Since the spectra passing each array were referenced to a physical scale, that is water elevation, one could assume by the law of conservation of energy, that the energy measured going into the system (incident energy at the R-array only, assuming the energy re-entering the system from the reflection of the beach at the T-array is negligible) should equal the energy leaving the system in either direction (reflected and transmitted energy). Again, the reader is reminded that although the energy density spectrum is used in these calculations, the assumption that all of the energy is contained in a single frequency band and that all spectra used in the calculation are of the same frequency resolution, this description is valid.

After the spectra had been calculated, the peak value of each spectrum was found and displayed along with its corresponding frequency. This frequency was usually in very good agreement with the expected peak frequency as established by the output of the signal generator control of the wave paddle. The spectra were plotted (Figures 5.5, 5.6, 5.7) and higher harmonics of the base frequency are evident in these plots. However, only the characteristics of the base frequencies were investigated. With the incident, reflected, and