PHY 331 (Experimental Physics Laboratory 2)

Sample LabVIEW Questions

Q1. Generate a sine wave with arbitrary amplitude and frequency. Add a Gaussian white noise with standard deviation of amplitude/4. Filter the noisy signal using Smoothing filter and low pass filter with different cut off frequencies. Also show the frequency response before and after filtering.

Q2. Simulate a square wave with arbitrary amplitude and frequency. Integrate the square wave. See the frequency response before and after integration. Also plot the frequency response in Matlab after writing the data in a measurement file.

Q3. Generate an array of random numbers and plot its histogram.

Q4. Acquire sound using microphone in LabVIEW and comment on its frequency range.

Q5. Generate Sine wave and square wave using two signal generators. Acquire both the signals using the DAQ card and SCC-68 module in LabVIEW. Adjust the proper sampling rates in VI file according to generated signal frequencies. Write the data in the measurement file and acquire it in Matlab.