Phys 5053 -- Assignment 5   **Due Fri, Nov 5**

1. Generate a sine wave y =10*sin ($2\pi\,t$/64) for 0<t<256. Using a numerical code of your choosing, compute the Fourier transform and show that you can identify the frequency of y(t). Does it agree with the true value?

2. The file 'Star.txt' contains brightness records for a variable star on 600 successive midnights. Find any characteristic periods (or frequencies) in the signal. Compare the results of the autocorrelation analysis with Fourier analysis.

3. The plot shows a signal produced by a superposition of two sinusoids. Sketch the Fourier spectrum of this signal. Mark the axes.