

9.3 Periodogram

The data set is that of Figure [9.5](#). The first column is a counter. The second column contains values of t randomly selected over a time interval $0 < t < 100$, with corresponding values of amplitude $y(t)$ in the third column. This amplitude is $y(t) = 0.7\cos(1.5t) +$ a random Gaussian noise signal of unit amplitude. The fourth and fifth columns represent gappy data, with amplitude calculated according to the same prescription. To obtain the gaps, no values of t between $20 - 40$ and $60 - 80$ were allowed, and the total number of ‘observations’ was reduced by a factor of $3/5$ in order to keep the density of ‘observation’ points within the permitted regions the same as that for the no-gap data.