Amplitude and Phase Spectrum

- amplitude spectrum :A plot of $|F(\omega)|$ against frequency f or ω is called the amplitude spectrum.
- phase spectrum :A plot of the phase 0f $F(\omega)$ against frequency f or ω is called the phase spectrum.
- Amplitude spectrum and phase spectrum are continuous and defined for all ω inside [-∞,∞].
- For real value signals:

$$F(\omega) = F^*(-\omega) \Rightarrow |F(\omega)| = |F(-\omega)| \quad and$$
$$\theta(F(\omega)) = -\theta(F(-\omega))$$

Then

- The amplitude spectrum is symmetric i.e. even function
- The phase spectrum is asymmetric i.e. odd function