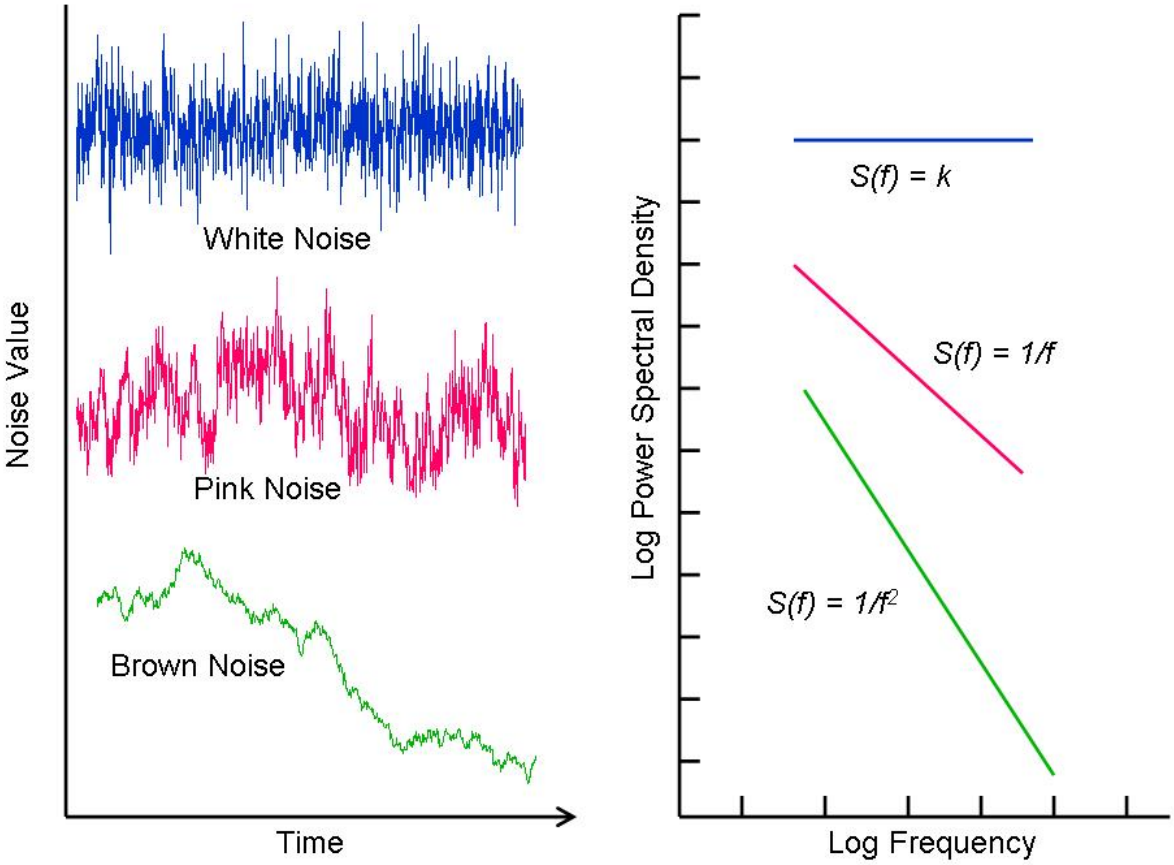
$1/f^0$ White Noise *vs.* $1/f^1$ Pink Noise *vs.* $1/f^2$ Brown Noise:

Fluctuating Signal $V(t)$: **Power Spectral Density $S_V(f)$:**



White Noise – ***flat*** frequency-domain spectral distribution – all frequencies equally probable per unit time – fluctuations have ***no*** correlations in the time-domain (*i.e.* temporal correlations exist only for/at ***infinite*** time intervals).

Pink $1/f$ Noise – spectral slope of $S_V(f)$ *vs.* f graph is –1 on log-log graph (–10 *dB*/decade) – $1/f$ noise fluctuations have ***long-range*** temporal (time-domain) correlations.

Brown $1/f^2$ Noise - spectral slope of $S_V(f)$ *vs.* f graph is –2 on log-log graph (–20 *dB*/decade) – $1/f^2$ noise fluctuations have ***short-range*** temporal (time-domain) correlations.