5.6.3 Diskreetti Fourier-muunnos

"Suppose that we have a sequence $\{g_k\}$ of N samples drawn from a continuous-time signal $g(t)$, at equal intervals T; that is,

$$\{g_k\} = \{g(kT)\}_{k=0}^{N-1}$$

Using (5.67) … with $\theta = \omega T$, we may write …

$$G(e^{j\omega T}) = \sum_{n=0}^{N-1} g_n \, e^{-jn\omega T} \qquad (5.76)$$

We now sample this transform $G(e^{j\omega T})$ at intervals $\Delta\omega$ … to create N samples spread equally over … one period … We then have

$$\Delta\omega = 2\pi/(NT) \qquad (5.77)$$

Sampling (5.76) at intervals $\Delta\omega$ produces the sequence"

$$G_k = \sum_{n=0}^{N-1} g_n \, e^{-jnk\Delta\omega T} \qquad (5.78)$$

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$$g_n = \frac{1}{N} \sum_{k=0}^{N-1} G_k \, e^{jnk\Delta\omega T} \qquad (5.82)$$

"The relations (5.78) and (5.82) … **define the discrete Fourier transform (DFT)** pair."