Appendix – A list of possibly relevant equations

- Complex number:
  - Euler's formula: $e^{j\theta} = \cos\theta + j\sin\theta$
- Fundamental period of a periodic signal:
  - Continuous-time sinusoidal: $T_0 = 2\pi/\omega_0$
  - Discrete-time sinusoidal: $N_0 = 2\pi k/\Omega_0$ if N_0 and k have no factors in common.
- Convolution sum: $x[n] * h[n] = \sum_{k=-\infty}^{+\infty} x[k]h[n-k]$
  - Commutative property: $x[n] * h[n] = h[n] * x[n]$
  - Distributive property: $x[n] * (h_1[n] + h_2[n]) = x[n] * h_1[n] + x[n] * h_2[n]$
  - Associative property: $x[n] * (h_1[n] * h_2[n]) = (x[n] * h_1[n]) * h_2[n]$
- Convolution integral: $x(t) * h(t) = \int_{-\infty}^{+\infty} x(\tau)h(t-\tau)d\tau$
  - Commutative property: $x(t) * h(t) = h(t) * x(t)$
  - Distributive property: $x(t) * [h_1(t) + h_2(t)] = x(t) * h_1(t) + x(t) * h_2(t)$
  - Associative property: $x(t) * [h_1(t) * h_2(t)] = [x(t) * h_1(t)] * h_2(t)$

— End of Paper —