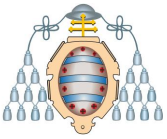

Notación Asignatura - Oppenheim - Emilio Gago

The book *Signals and Systems* by A. Oppenheim uses a notation that is very common in telecommunication engineering. However, the aforementioned book is mostly focused on time-domain signals even if it is usual to work also with space-domain signals. For this reason, this course also uses the notation introduced by the author Emilio Gago. This notation is between the two previous ones and it should be easy to translate between all of them. However, in case of need, the following conversion table can be useful.

Course	Oppenheim	Emilio	Description
φ_A	$\sphericalangle A$	φ_A	Phase of the complex number A
$f(x)$	$x(t)$	$f(x)$	Continuous-variable signal. A. Oppenheim describes the concept as "continuous time". It is also used for generic signals as well as the for input signals.
$g(x)$	$g(t)$	$g(x)$	Continuous-variable signal. A. Oppenheim describes the concept as "continuous time". It is mostly used for output signals.
$u(x)$	$u(t)$	$\Gamma(x)$	Unit step signal or Heaviside signal in continuous-variable. The definition at $x=0$ can be different.
$\Pi\left(\frac{x}{\Delta}\right)$	-	$P_\Delta(x)$	Pulse signal. Oppenheim does not use a specific notation for this signal.
$\Lambda\left(\frac{x}{\Delta}\right)$	-	$T_\Delta(x)$	Triangle signal. Oppenheim does not use a specific notation for this signal.
$\delta^{(n)}(x)$	$u_n(t)$	$\delta^{(n)}(x)$	First derivative of the Dirac delta distribution.
$\int_{<X_0>} f_0(x)dx$	$\int_T x(t)dt$	$\int_{<X_0>} f_0(x)dx$	Integral over a period
ξ, ω, k	ω	ξ, ω, k	Frequency of a continuous-variable signal. In this course and in the book by E. Gago, a generitc notation is used (ξ) as well as two specific notation for the time-domain (ω) and space-domain (k) signals.
$F(\xi)$	$X(j\omega)$	$F(\xi)$	Fourier transform of $f(x)$ (respectively, $x(t)$) at the angular frequency given by ξ or ω.
$x(n)$	$x[n]$	$x(n)$	Discrete variable signal. A. Oppenheim describes the concept as "discrete time" and prefers to use brackets instead of parenthesis. It is also used for generic signals as well as the for input signals.
$u(n)$	$u[n]$	$\Gamma(n)$	Unit step or Heaviside function in the discrete-variable case.
$X(\Omega)$	$X(e^{j\omega})$	$X(\Omega)$	Fourier transform of $x(n)$ (respectively, $x[n]$) at the angular frequency given by Ω or ω.
$\sum_{n=\langle N_0\rangle} x_0(n)$	$\sum_{n=\langle N\rangle} x_0(n)$	$\sum_{n=\langle N_0\rangle} x_0(n)$	Sum over a period.
LSI system	LTI system	LSI system	Linear and shift-invariant system (A. Oppeneheim denotes this kind of systems as linear and time-invariant)