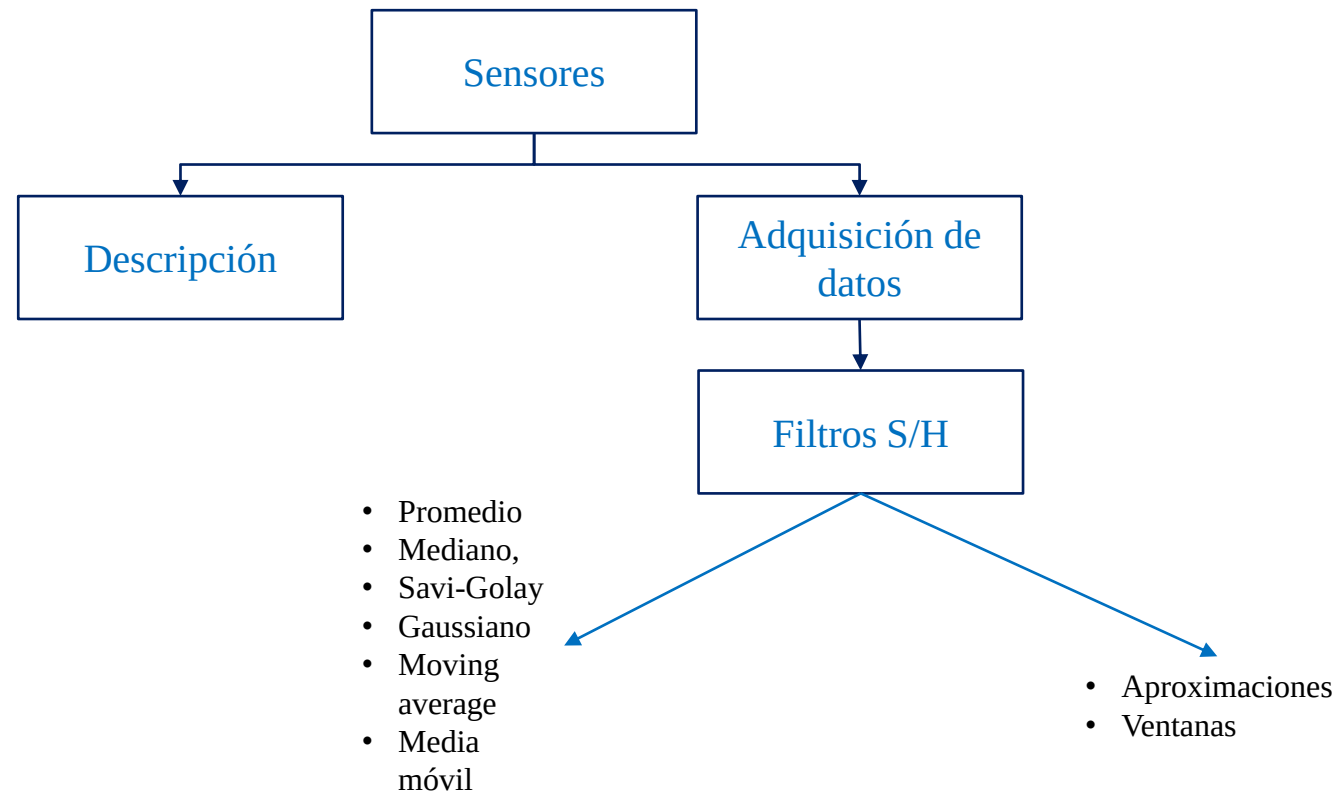


FILTROS

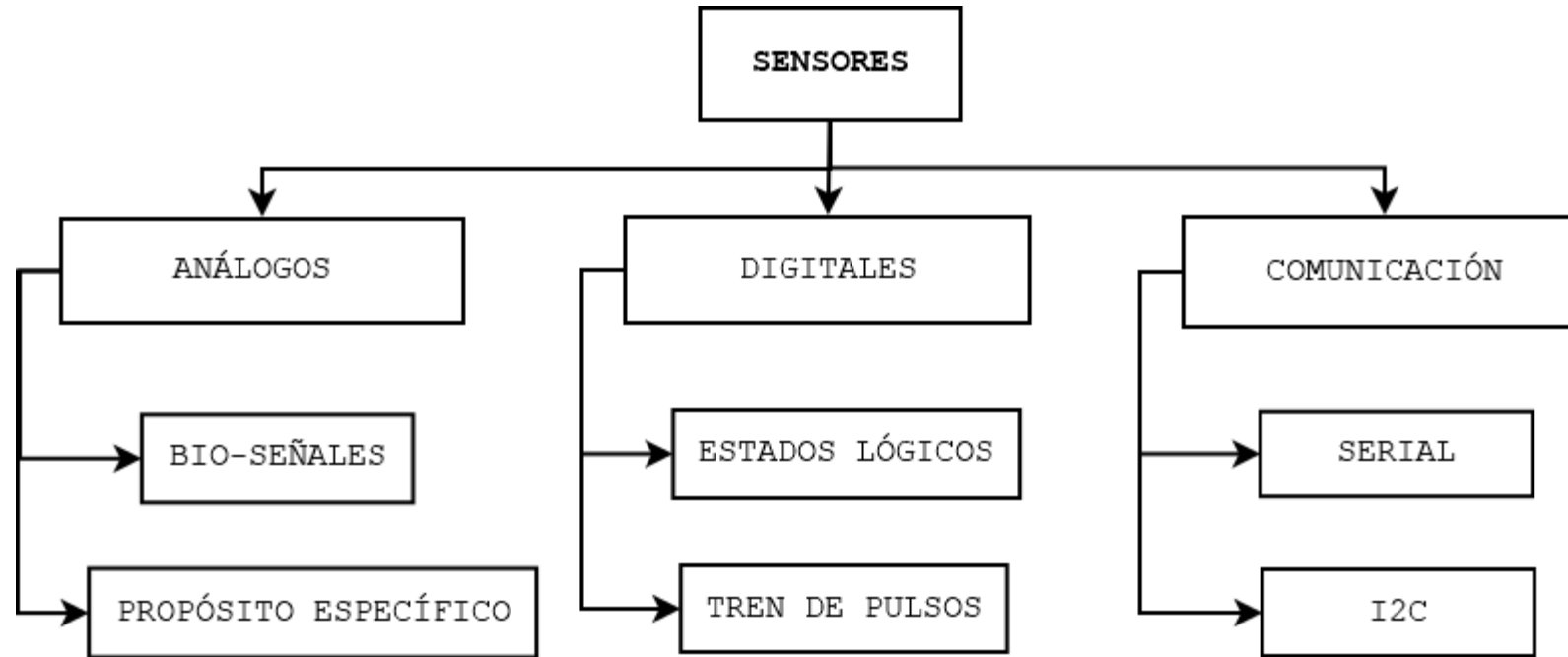


SENSORES



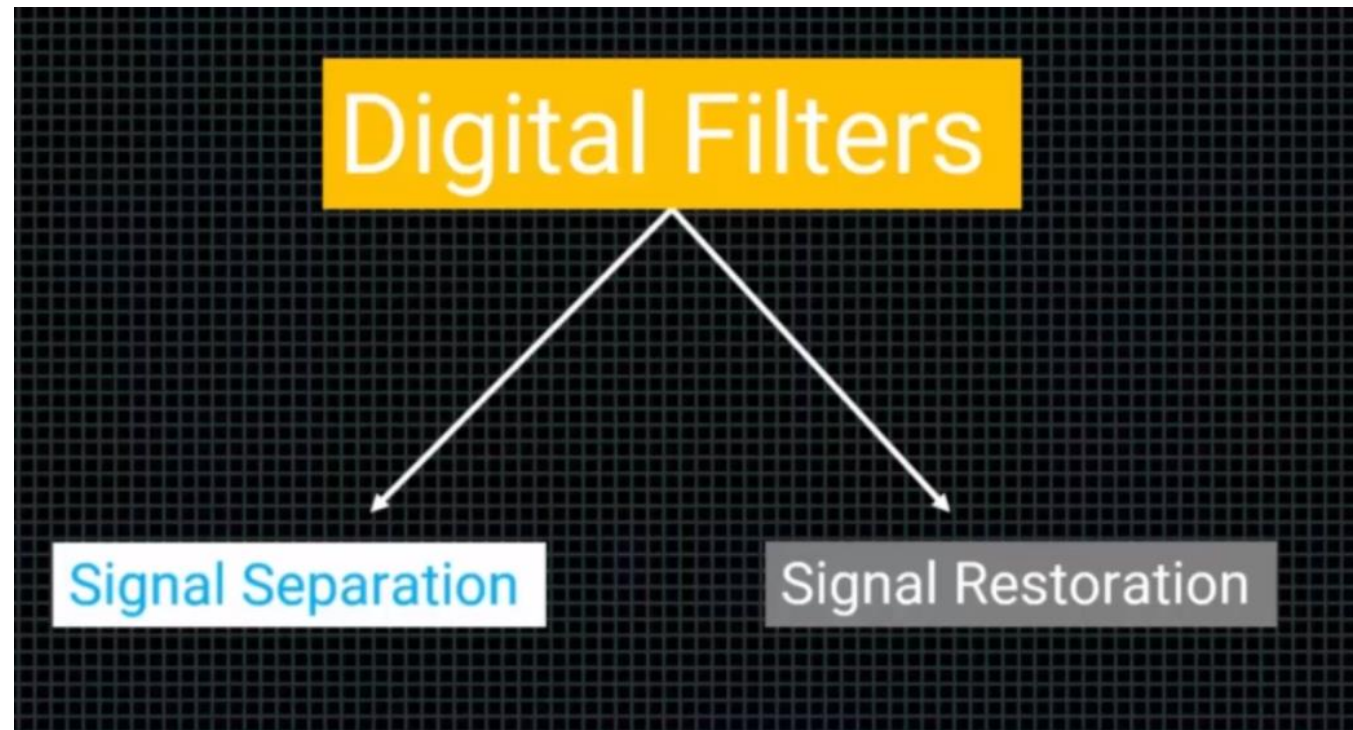


TAXONOMÍA

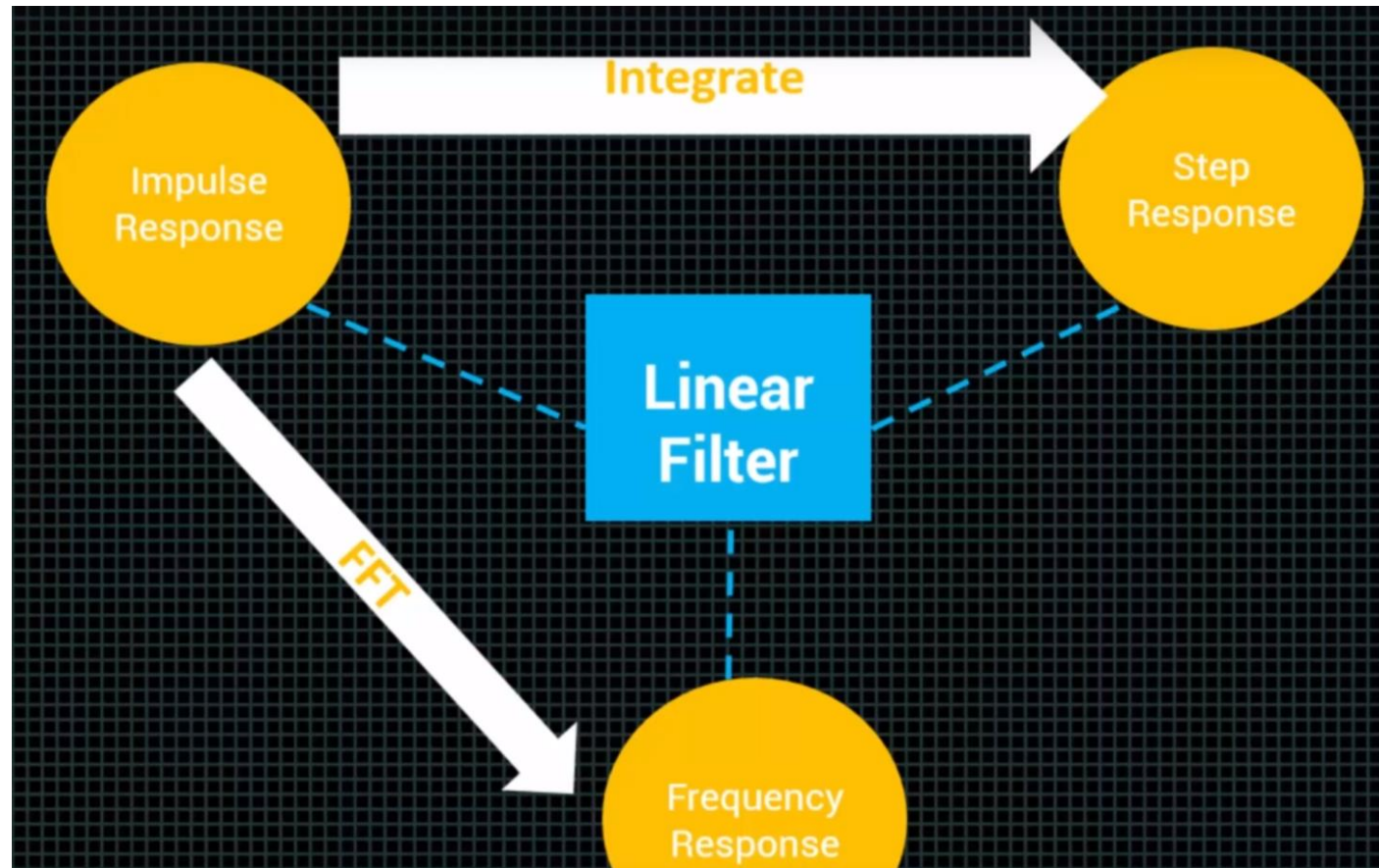


TAXONOMÍA DE SENSORES

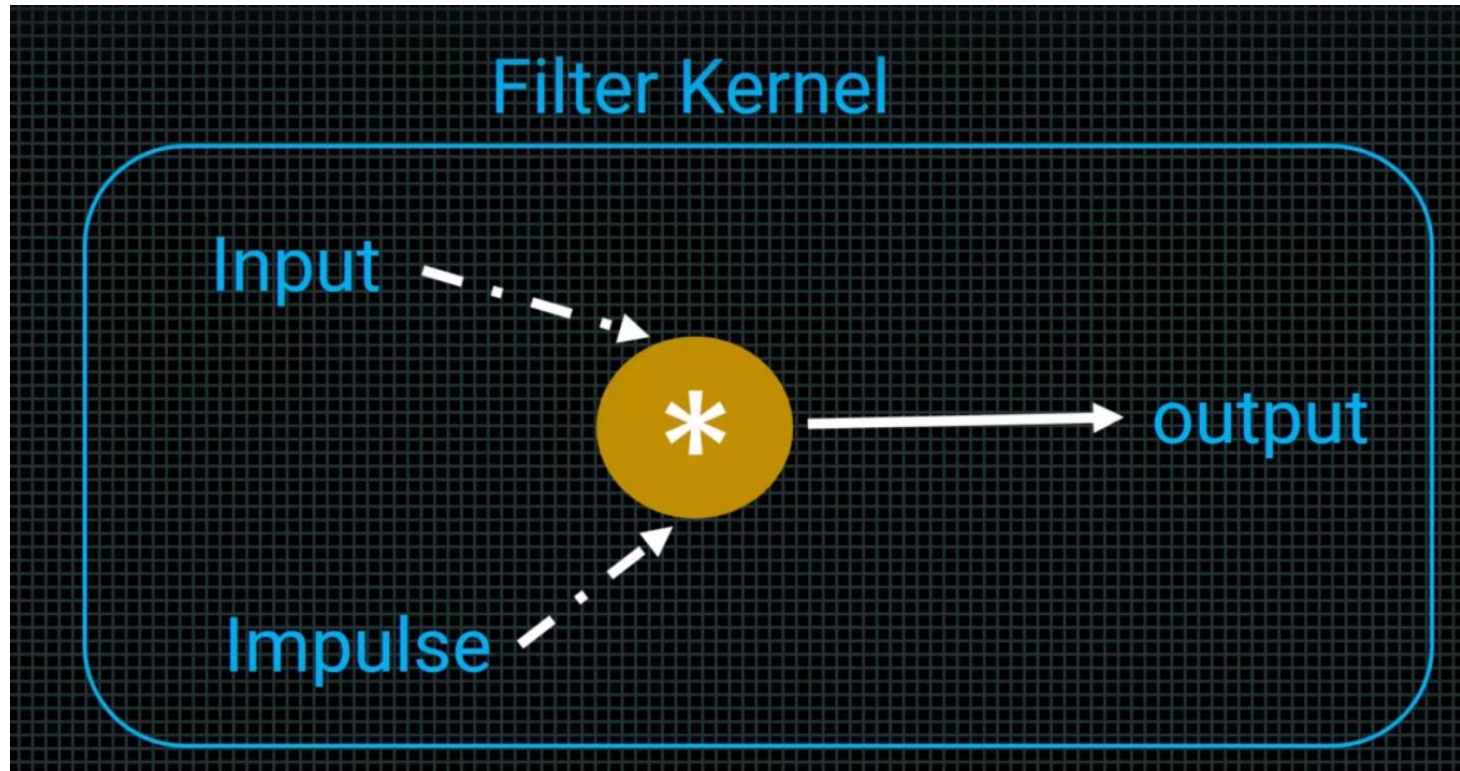
DISEÑO DE FILTROS



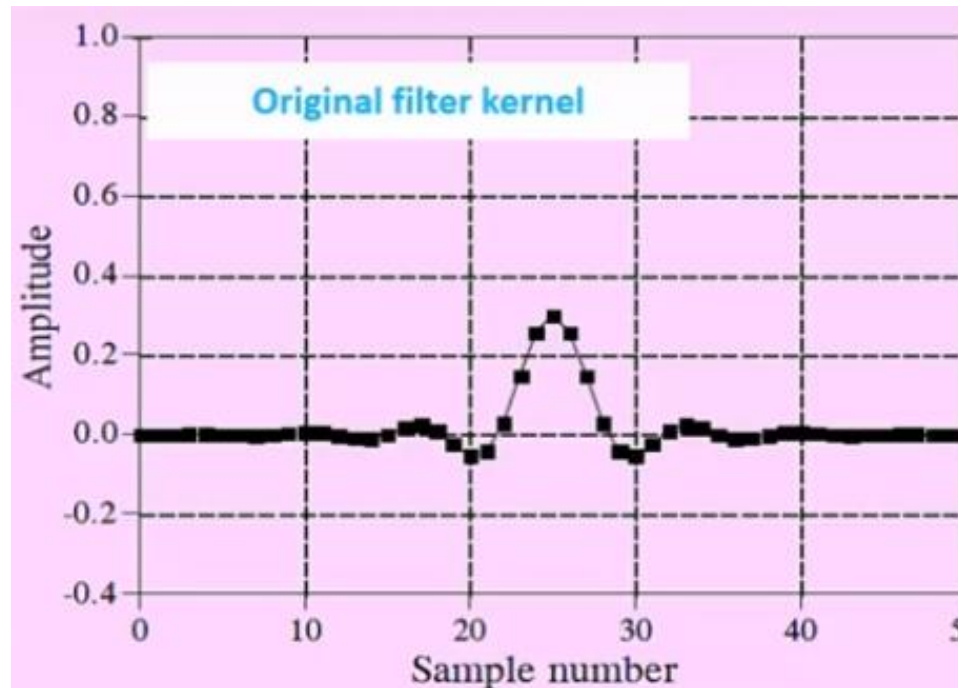
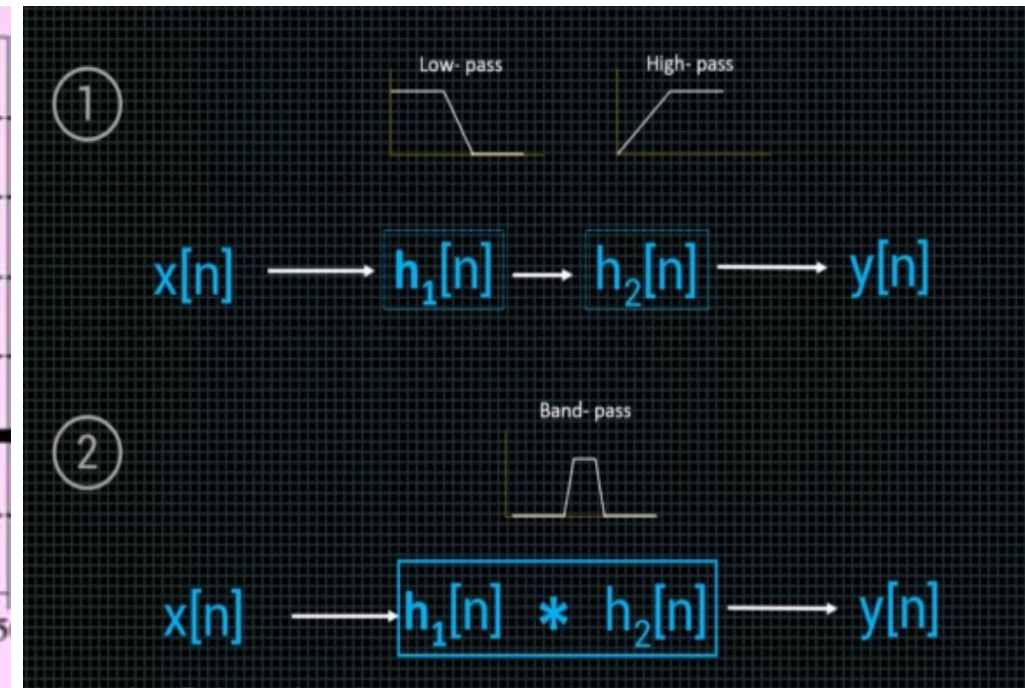
DISEÑO DE FILTROS



DISEÑO DE FILTROS

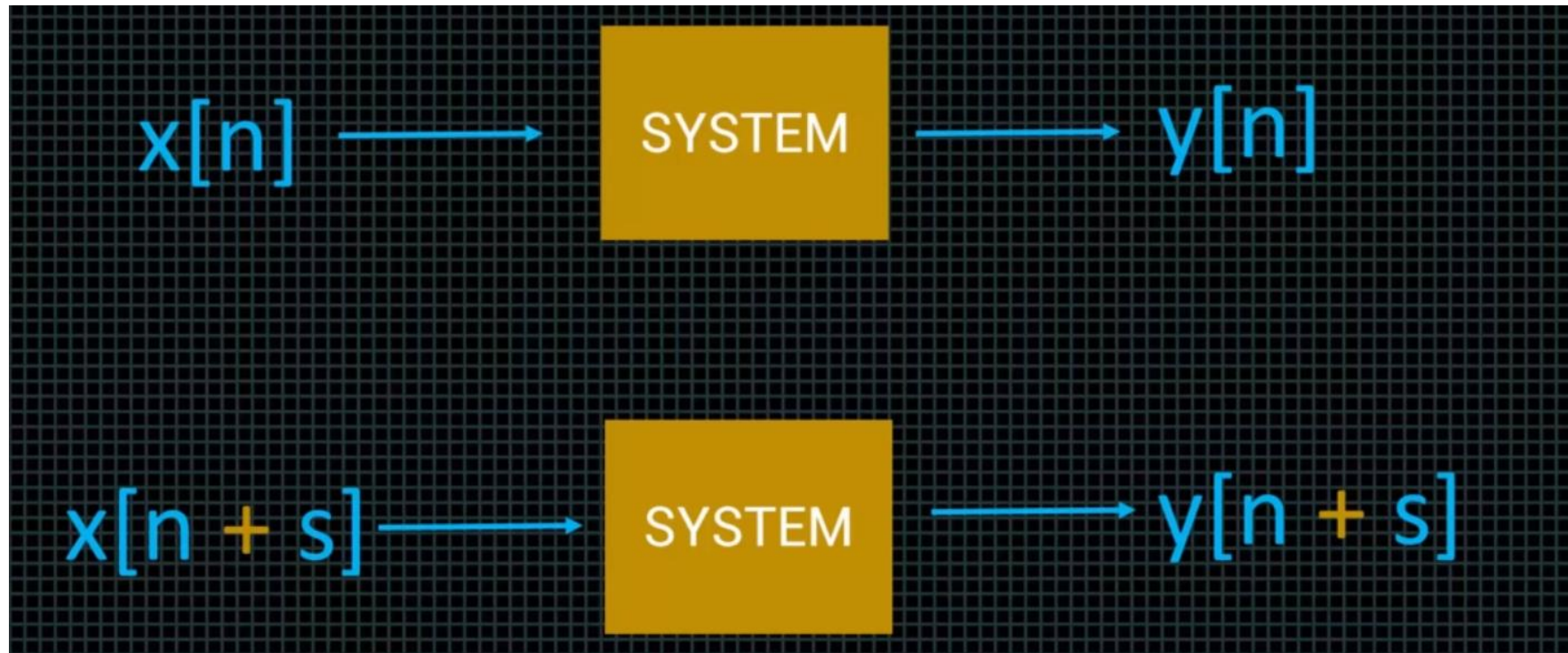


DISEÑO DE FILTROS

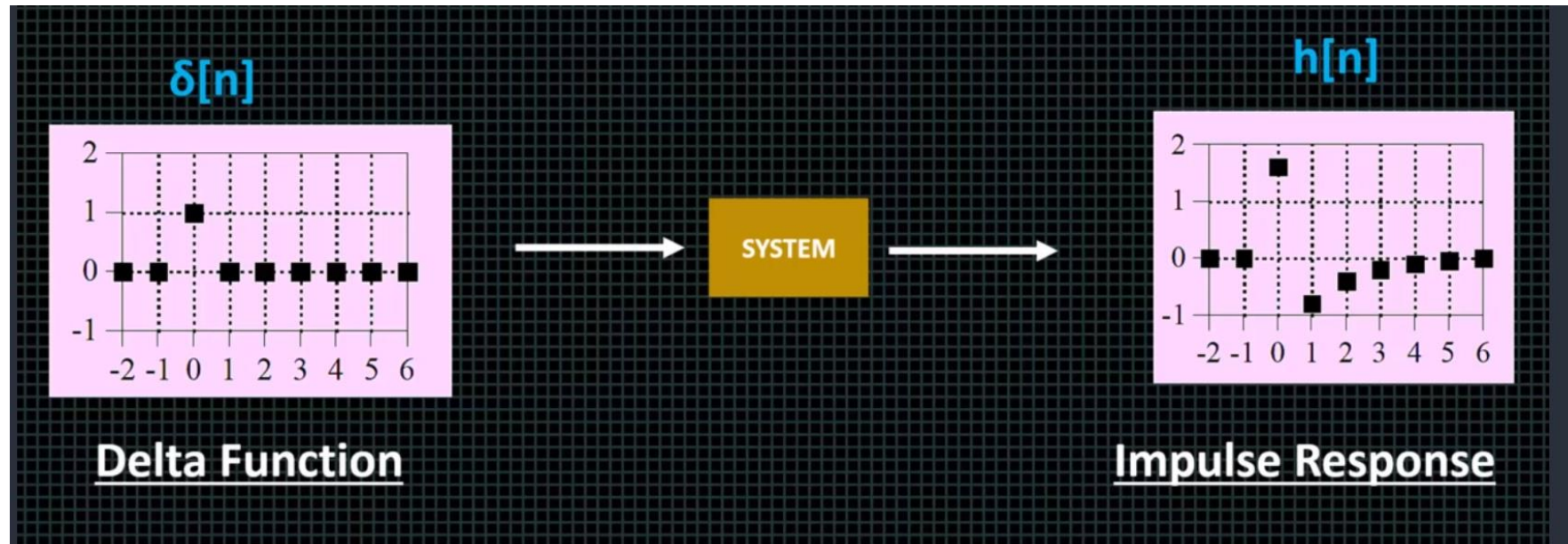




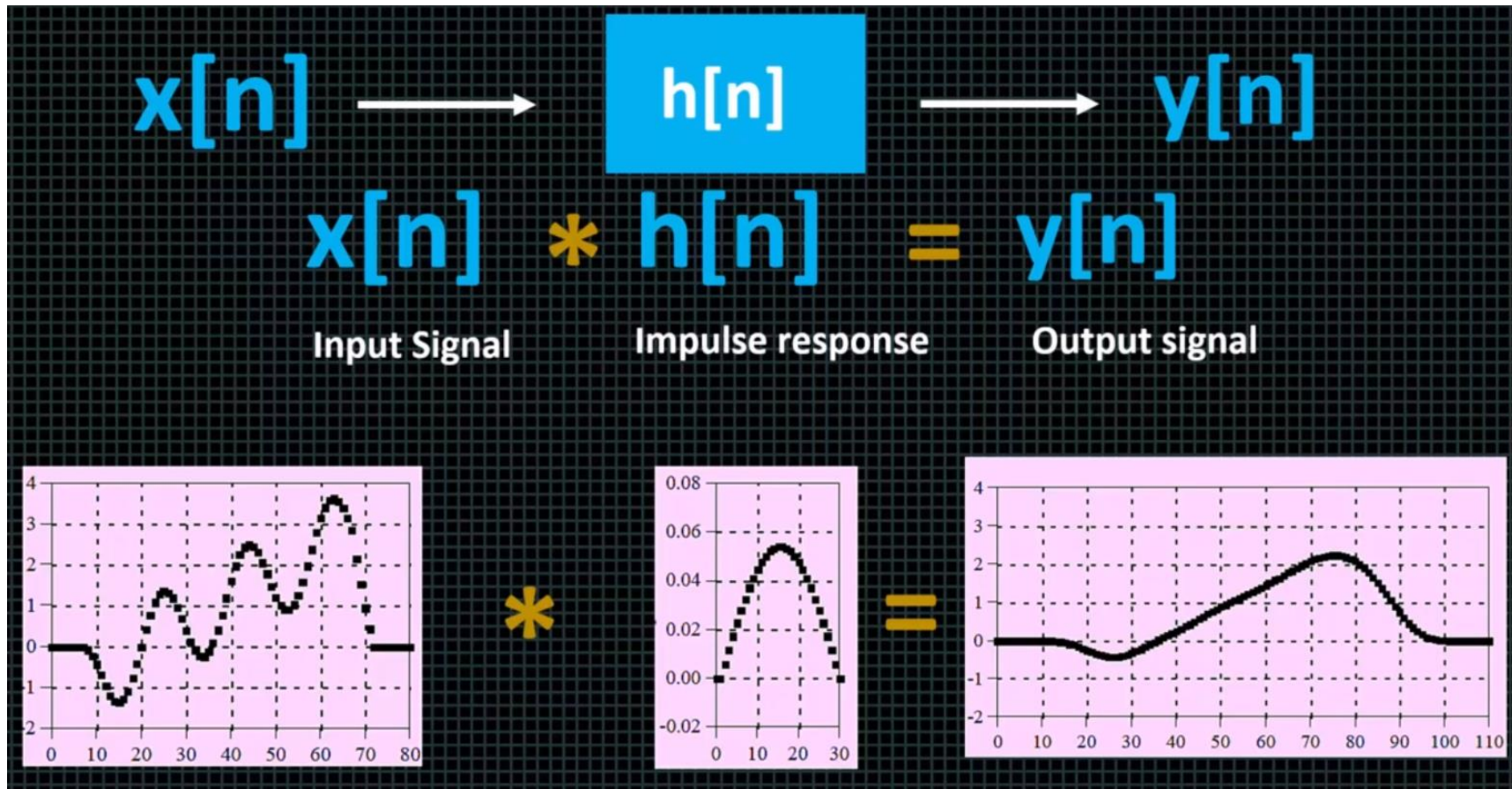
SISTEMAS LINEALES



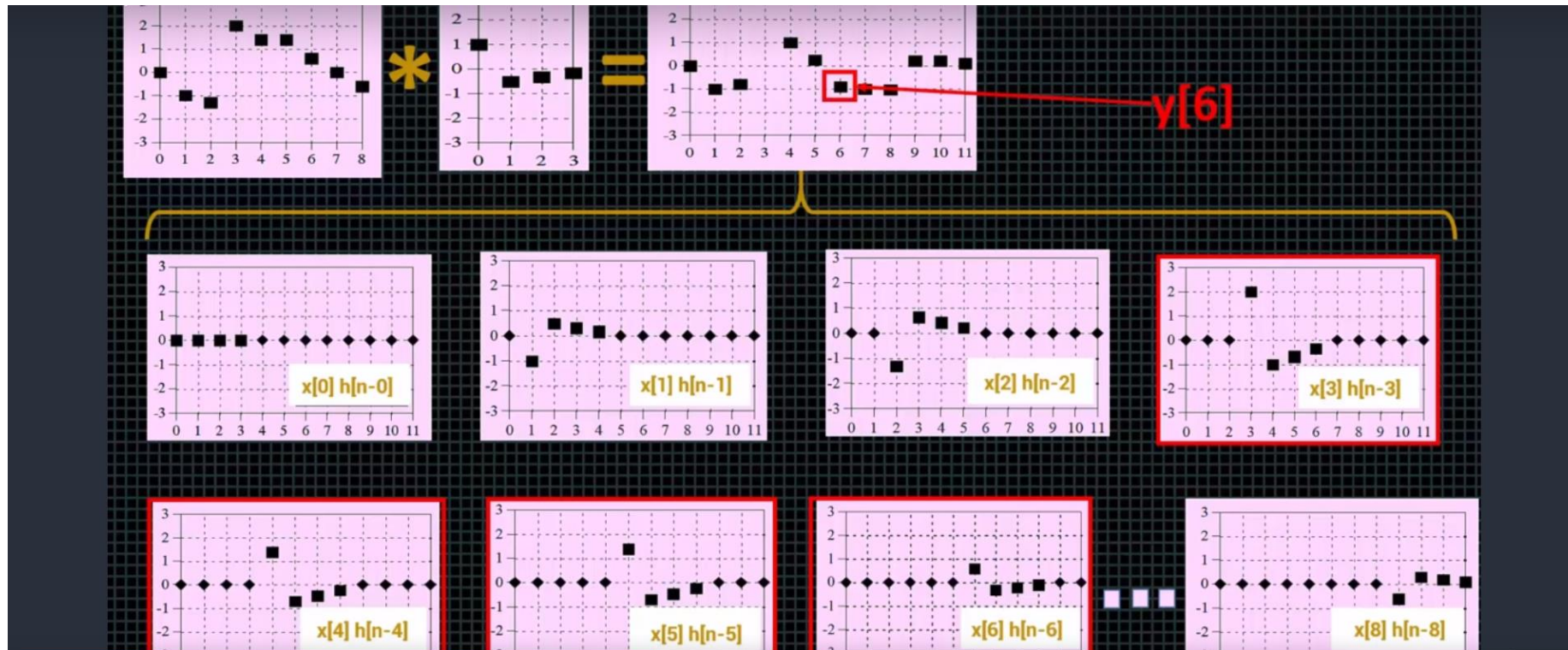
CONVOLUCIÓN



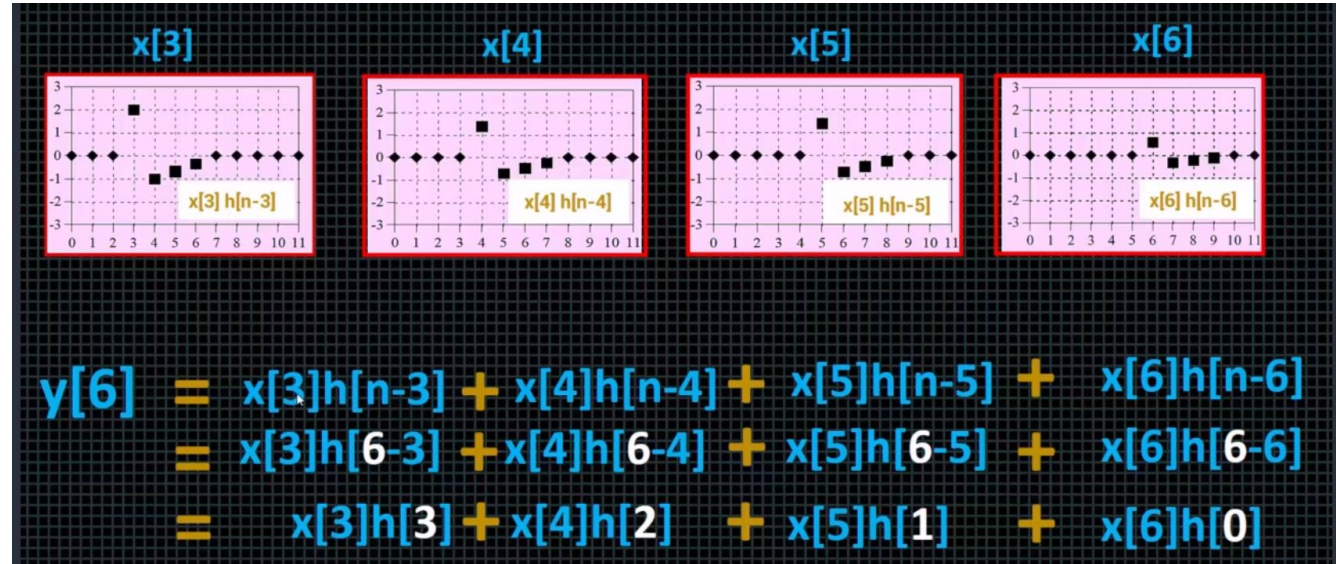
CONVOLUCIÓN



CONVOLUCIÓN



CONVOLUCIÓN



CONVOLUCIÓN

$$y[n] = h[n] * x[n]$$

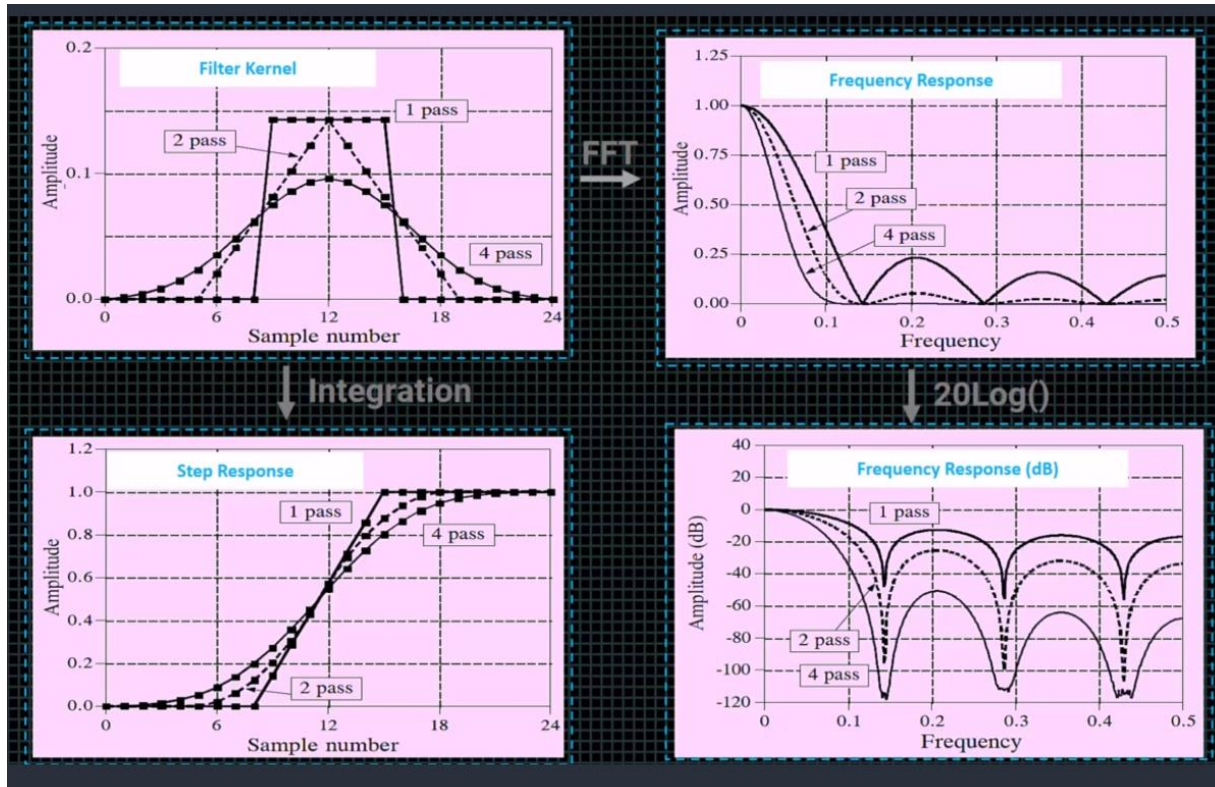
$x[n]$: N-point signal from 0 to N-1

$h[n]$: M-point signal from 0 to M-1

$h[n] * x[n]$: N+M-2 point signal from 0 to N+M-2

$$y[i] = \sum_{j=0}^{M-1} h[j] x[i-j]$$

MOVING AVERAGE



$$y[50] = x[47] + x[48] + x[49] + x[50] + x[51] + x[52] + x[53]$$

$$y[51] = x[48] + x[49] + x[50] + x[51] + x[52] + x[53] + x[54]$$

MOVING AVERAGE RECURSIVE

$$y[50] = x[47] + x[48] + x[49] + x[50] + x[51] + x[52] + x[53]$$

$$y[51] = x[48] + x[49] + x[50] + x[51] + x[52] + x[53] + x[54]$$

$$y[51] = y[50] + x[54] - x[47]$$

$$y[i] = y[i - 1] + x[i + p] - x[i - q]$$

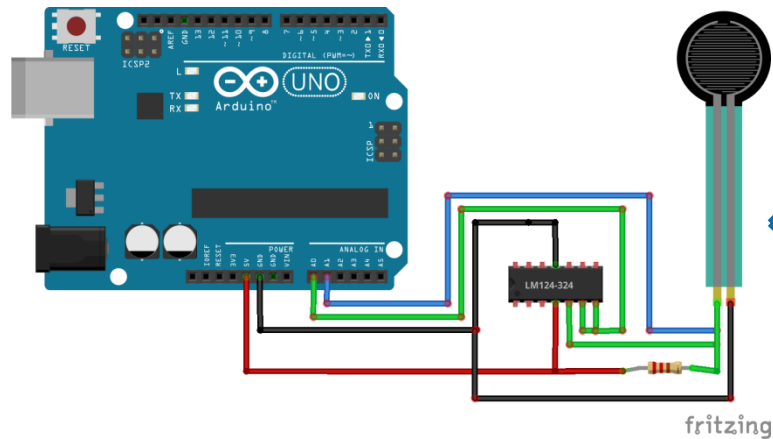
$$\text{where : } p = \frac{M - 1}{2}$$

$$q = p + 1$$

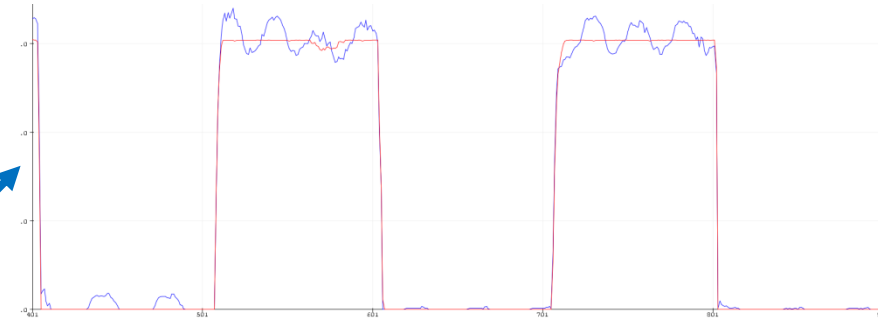
M = Number of points in

PRUEBAS- MUESTRAS

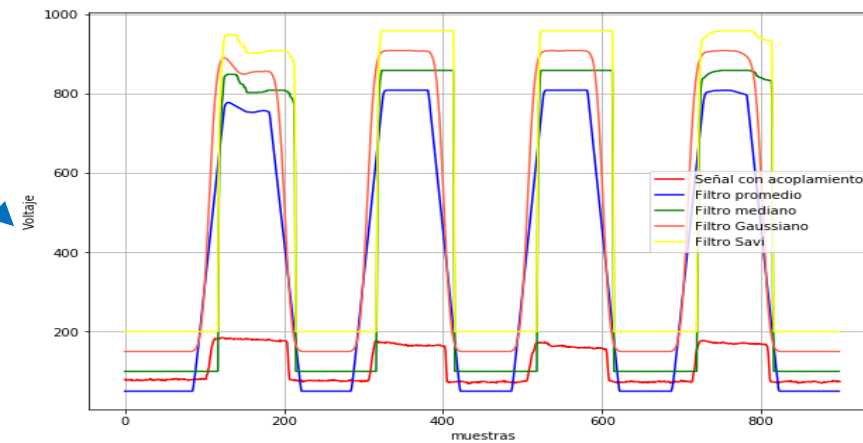
ACOPLAMIENTO DE SENSORES



Diseño electrónico



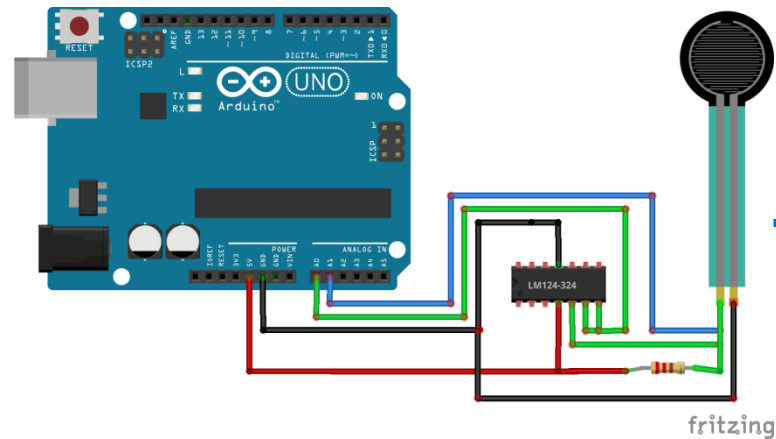
Filtro en *Hardware*



Filtro en *Software*

PRUEBAS- EN TIEMPO REAL

ACOPLAMIENTO DE SENSORES



Diseño electrónico

