Universidad Popular del Cesar

Tratamiento de Señales

Version 2024-I

PSF

[Capítulo 6]

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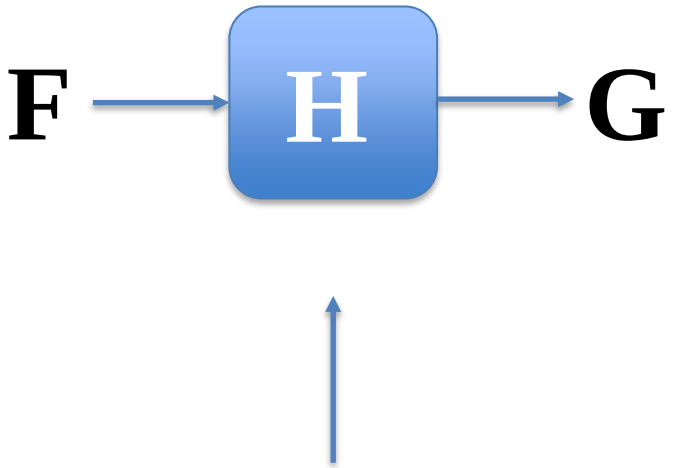
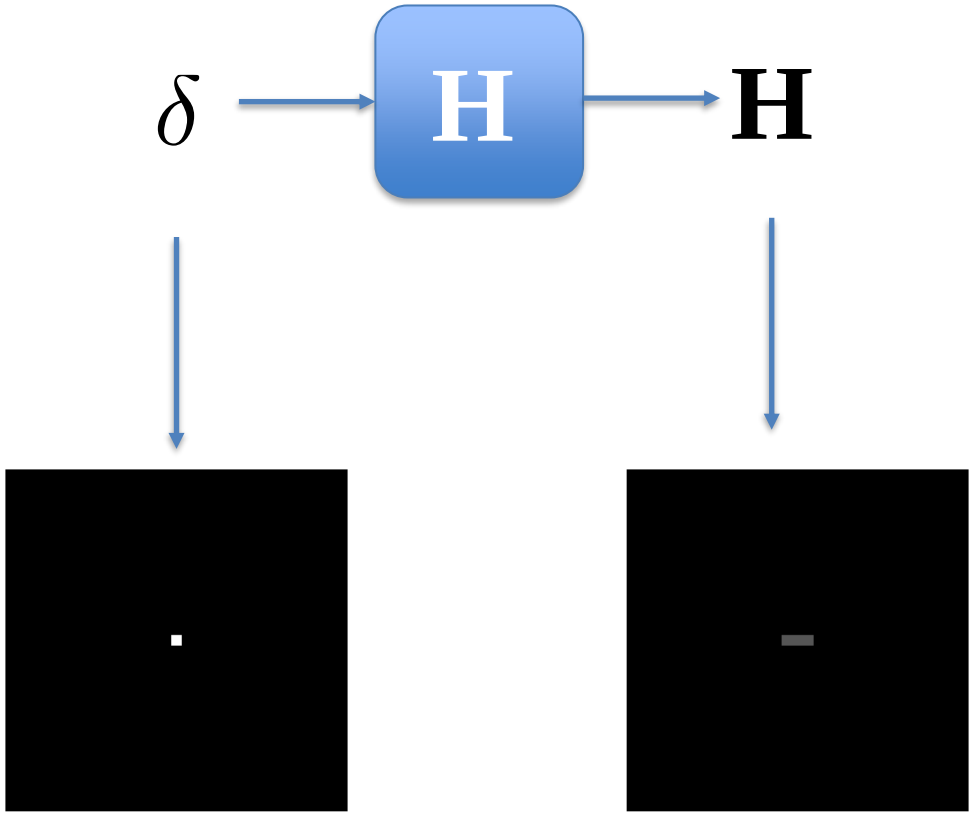
PSF: Point Spread Function



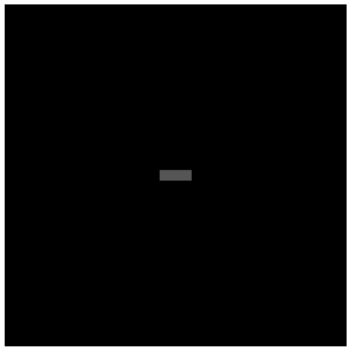
H en el dominio del espacio es conocido como PSF (*point spread function*),
o bien como OTF *(optical transfer function)* en el dominio de la frecuencia

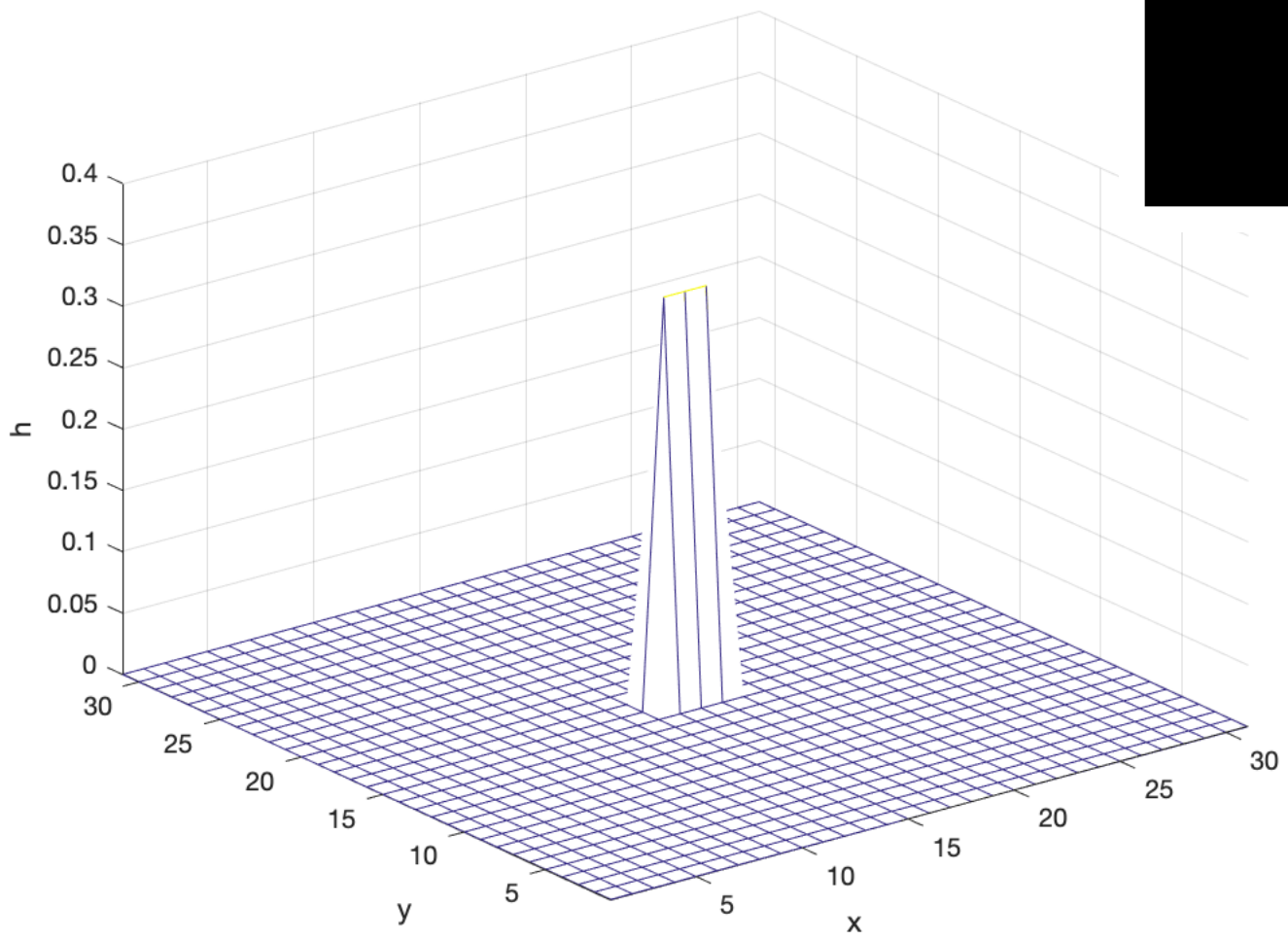
PSF: Point Spread Function

$$h = [1\ 1\ 1]/3$$

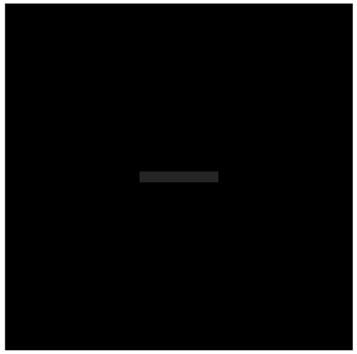


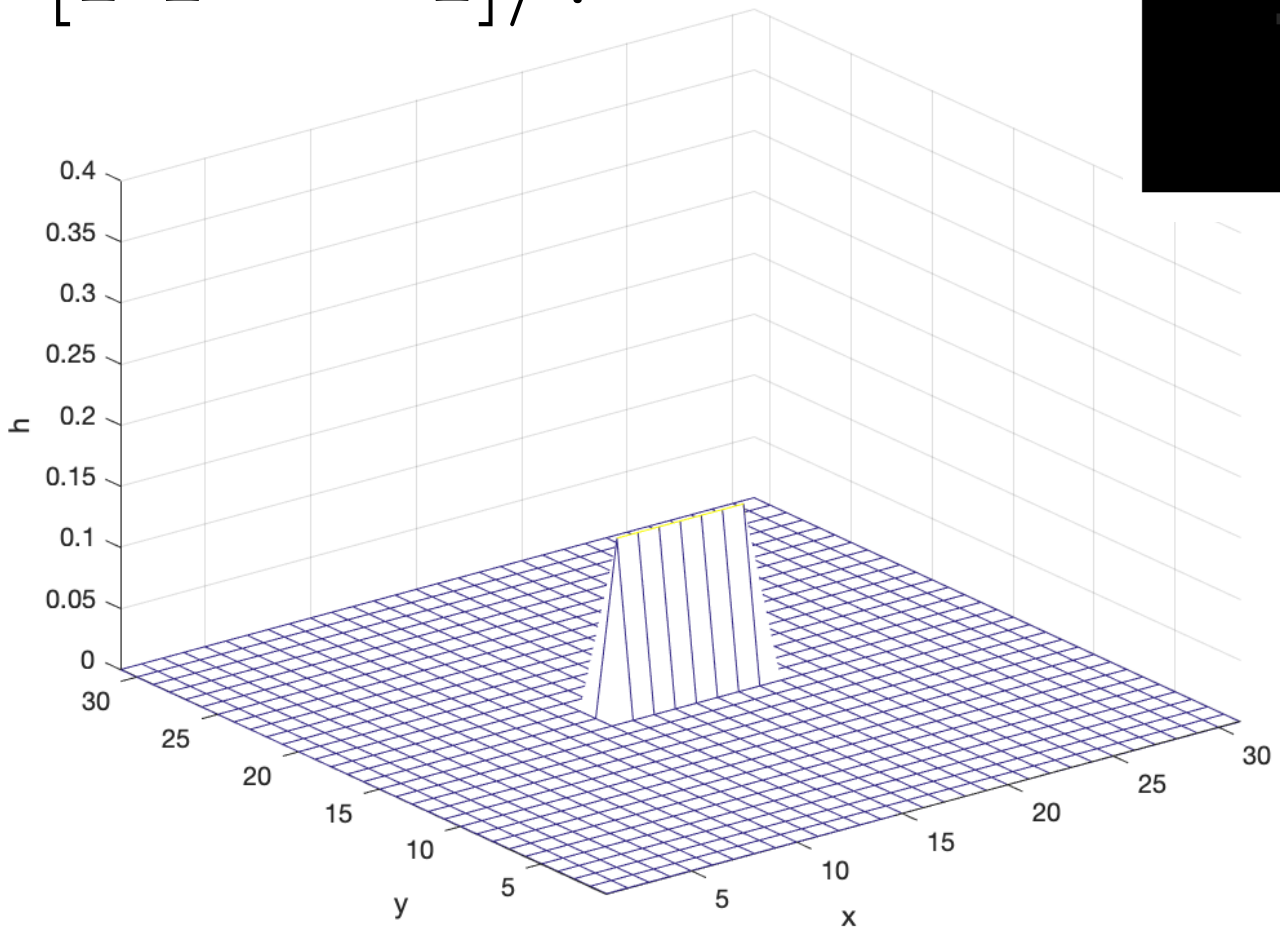
$$h = [1\ 1\ 1]/3$$



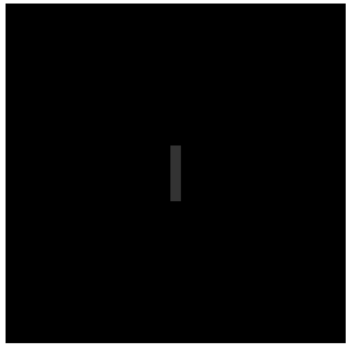


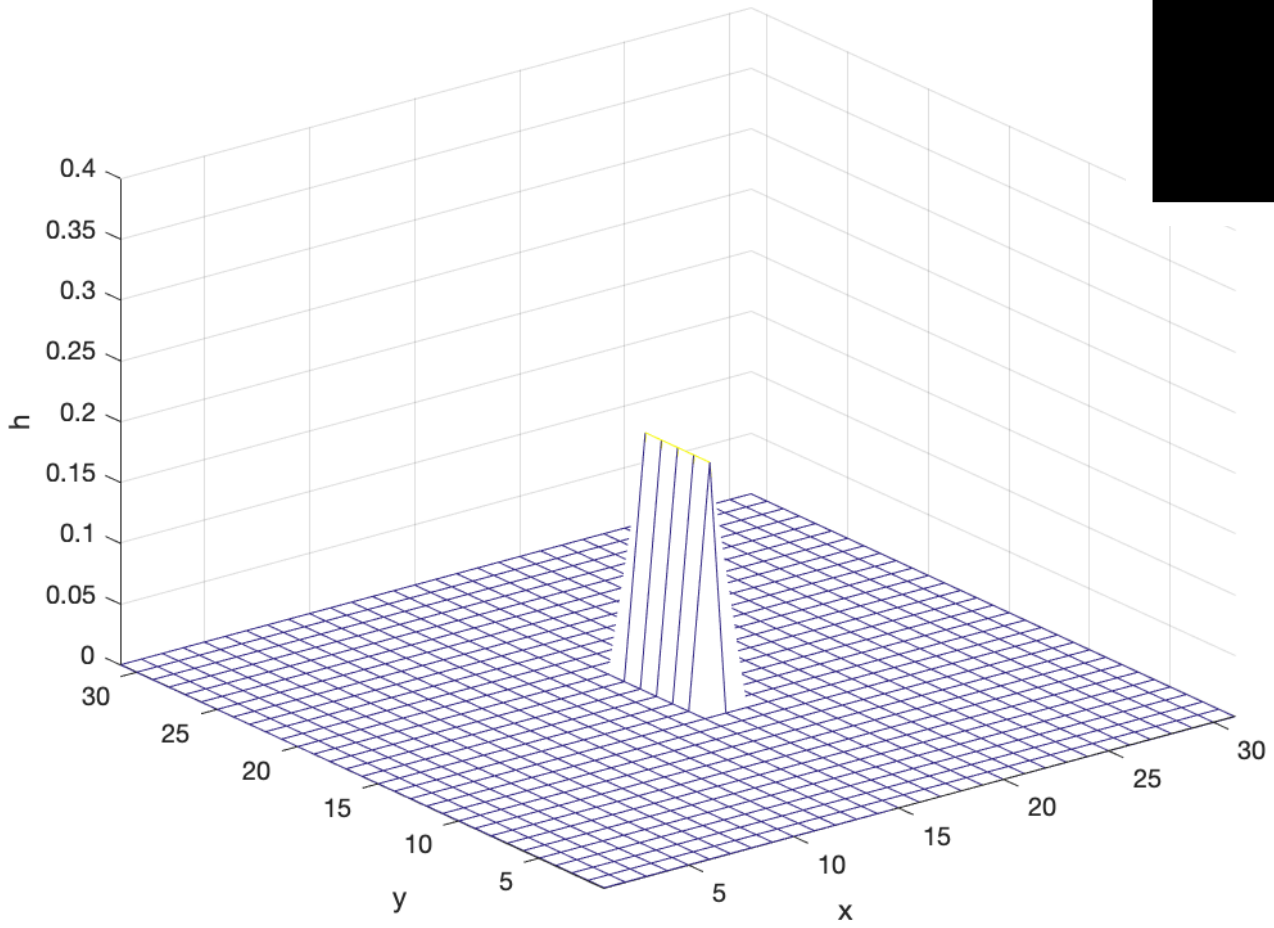
$$h = [1\ 1\ \cdots\ 1]/7$$



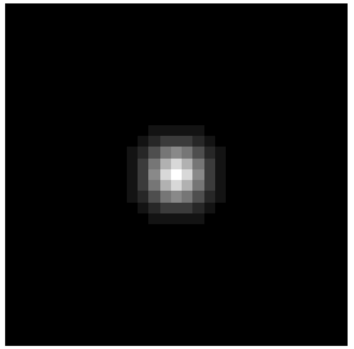


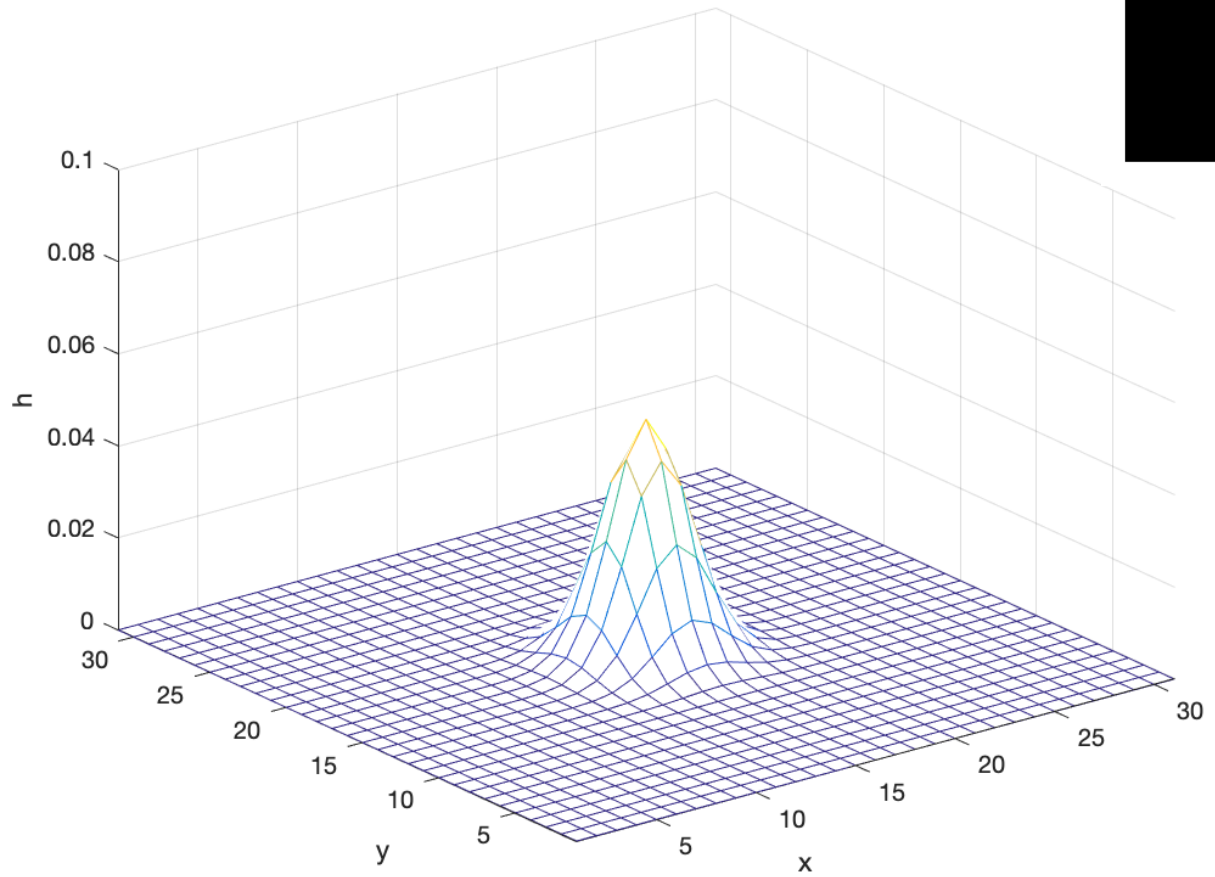
$$h = [1\ 1\ \cdots\ 1]^{\mathsf{T}}/5$$





h = Gaussian





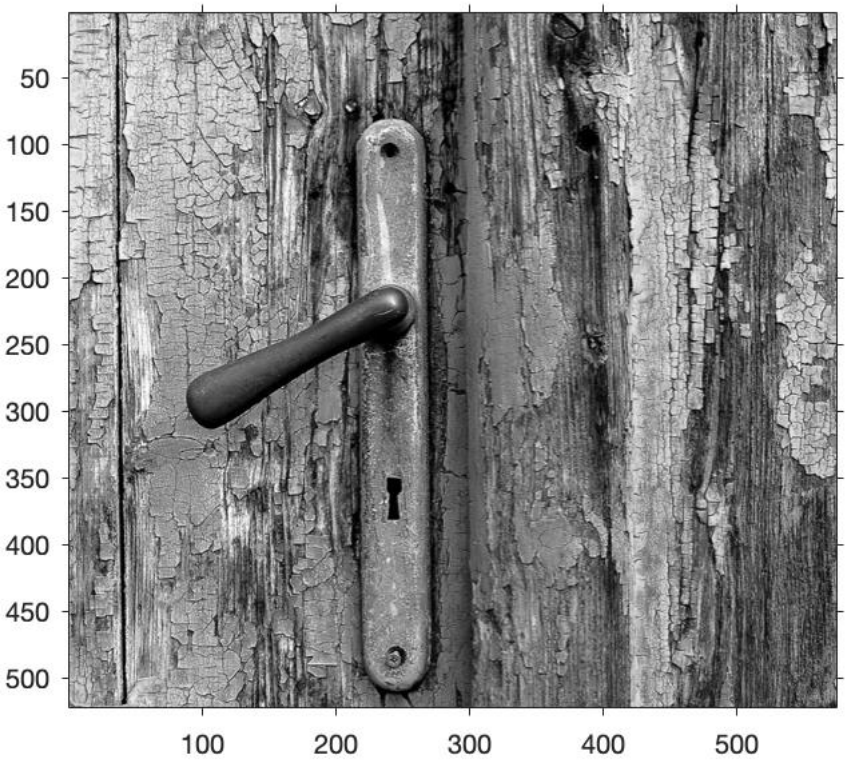
Ejemplo

Movimiento Lineal Uniforme

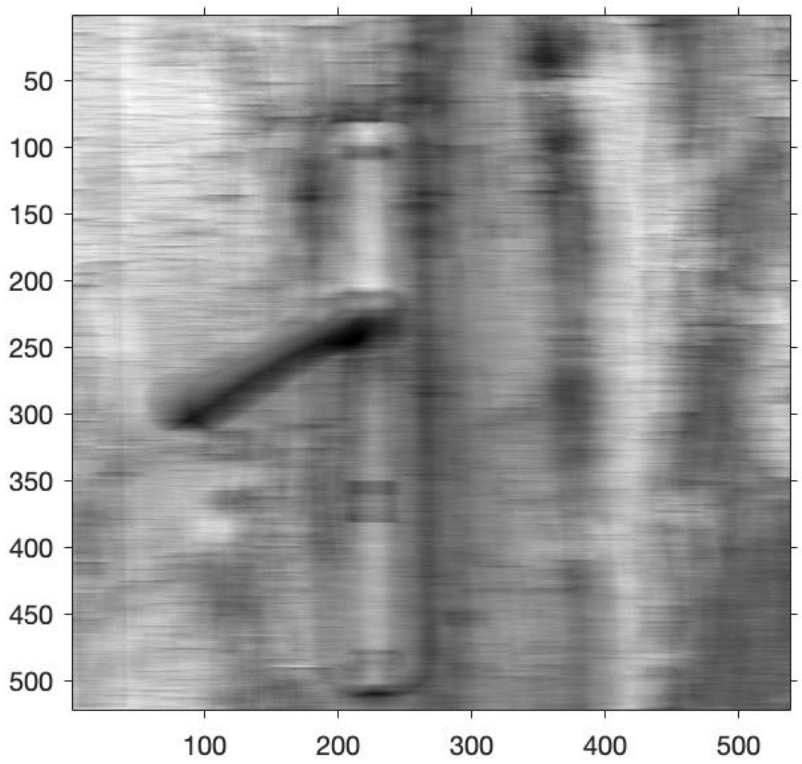
$$h = [1\ 1\ \cdots\ 1]/37$$

$$h = [1\ 1\ \cdots\ 1]/37$$

F

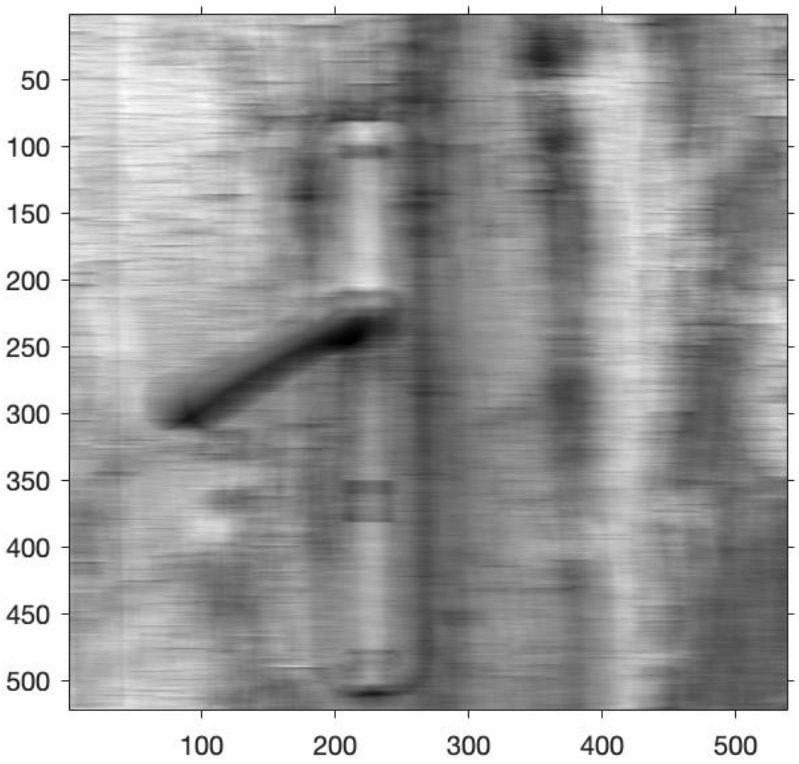


G




G
DFT2
G Fourier

G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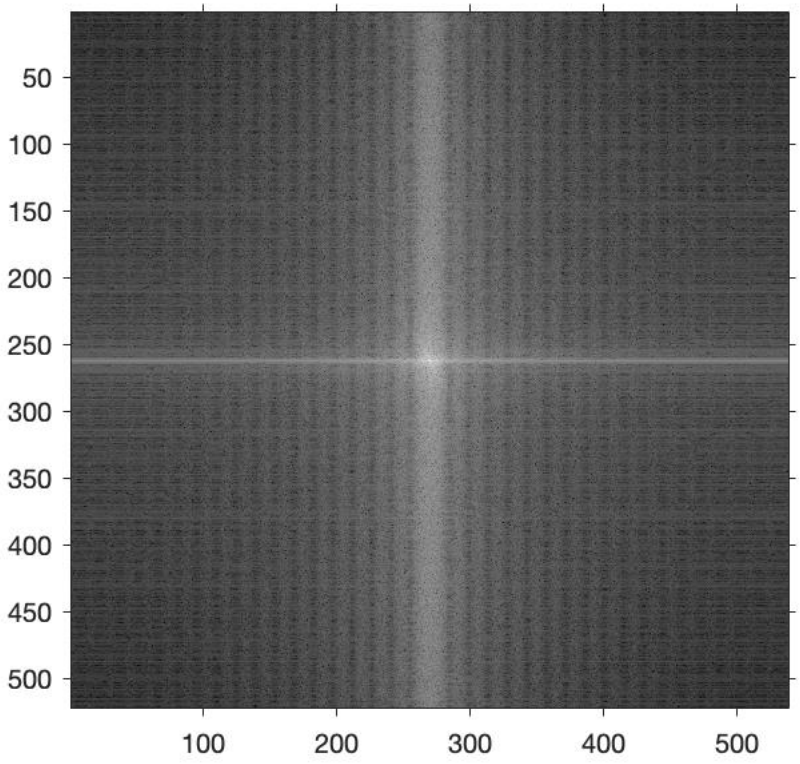
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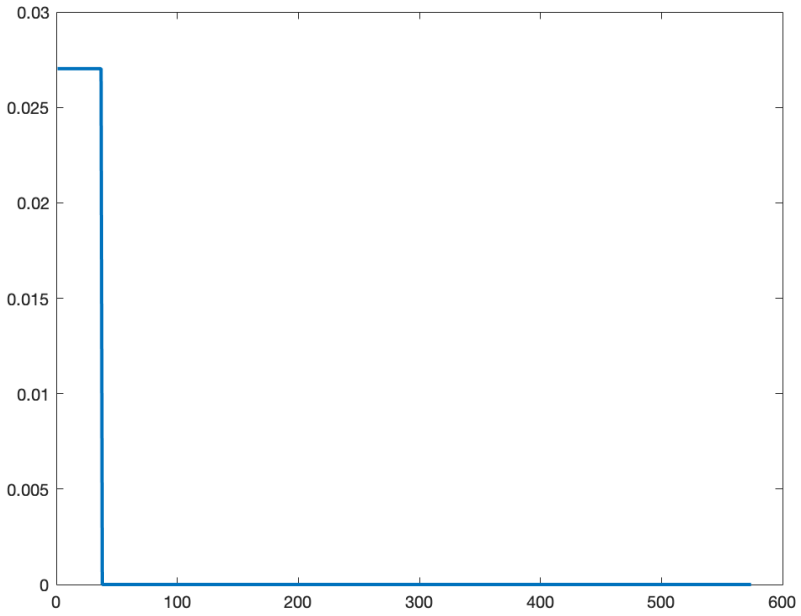
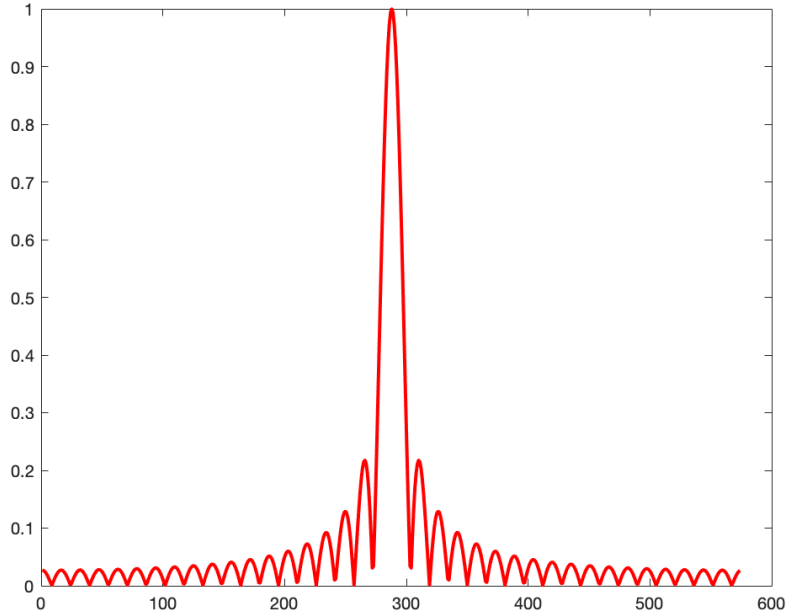
$h(x)$



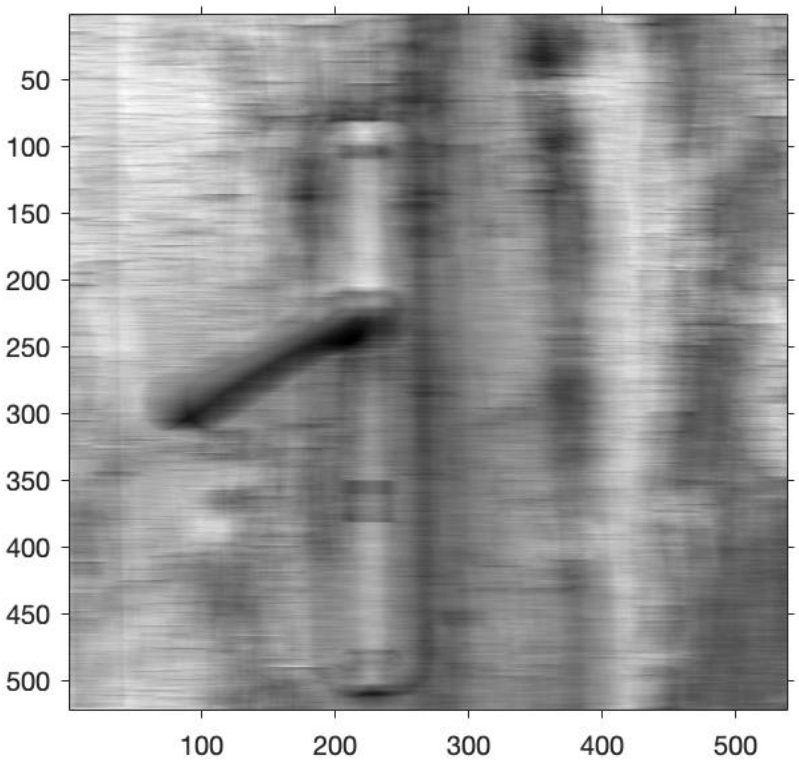
$H(\omega)$

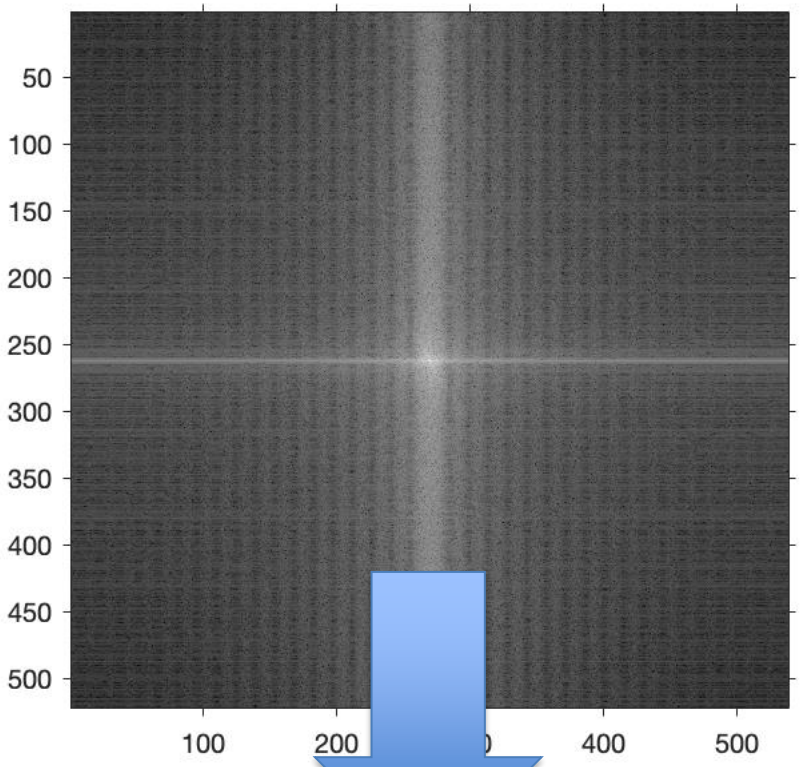


En Fourier, la transformada de cada fila de la imagen original es multiplicada por H(w), esto quiere decir que esta transformada tendra una forma periódica cuyo periodo depende de n, el ancho del pulso de h.

$G \rightarrow$ DFT2 $\rightarrow G_{Fourier}$

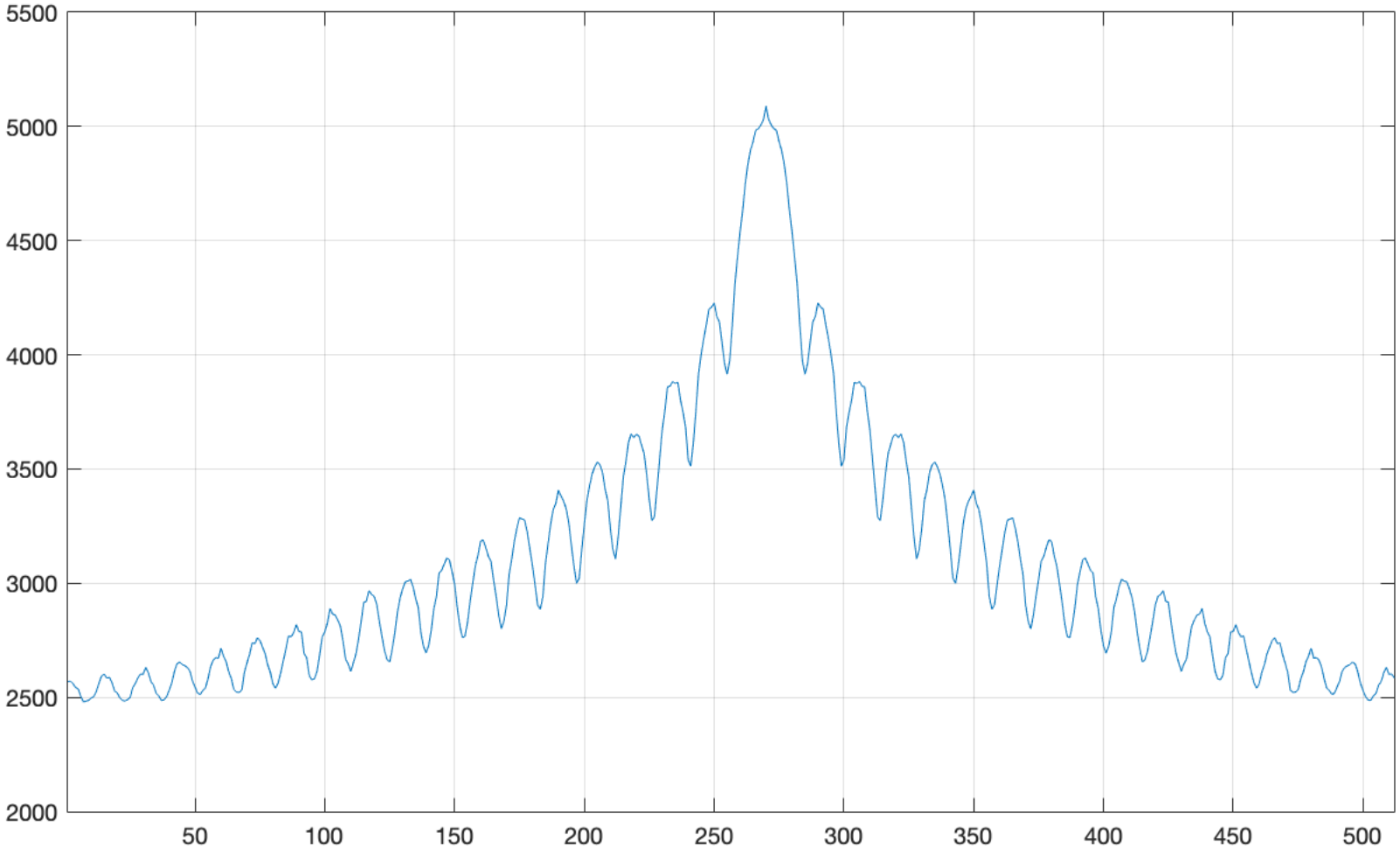
G





PROMEDIAR

PROMEDIO DE LAS FILAS DE LA TRANSFORMADA DE FOURIER



DFT DEL PROMEDIO DE FILAS