



Tratamiento de Señales

Version 2022-I

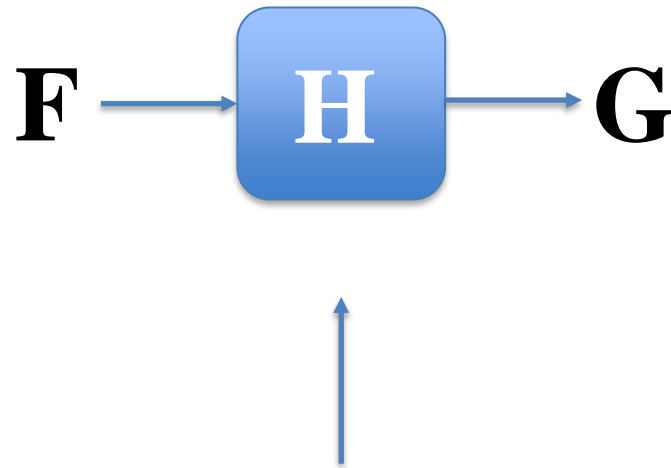
PSF

[Capítulo 6]

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Universidad Popular del Cesar

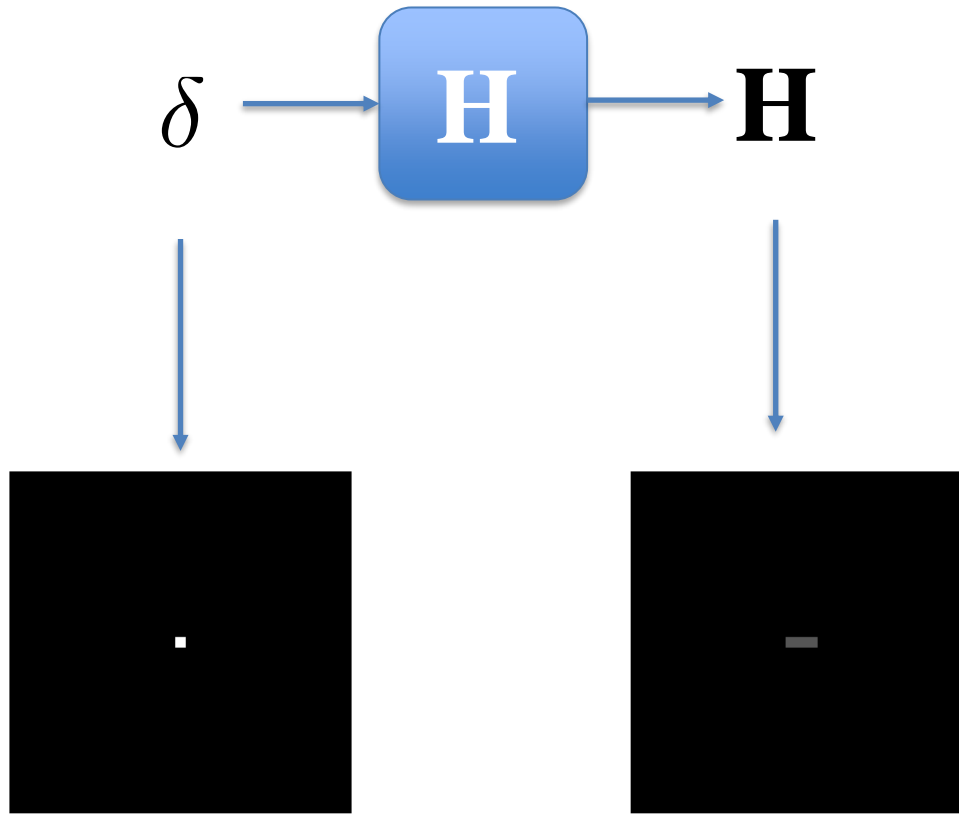
PSF: Point Spread Function



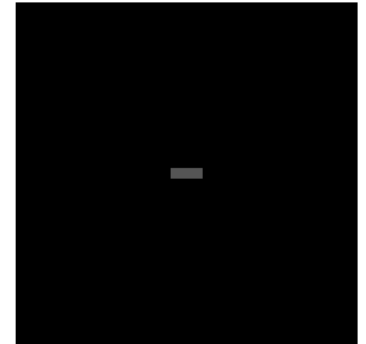
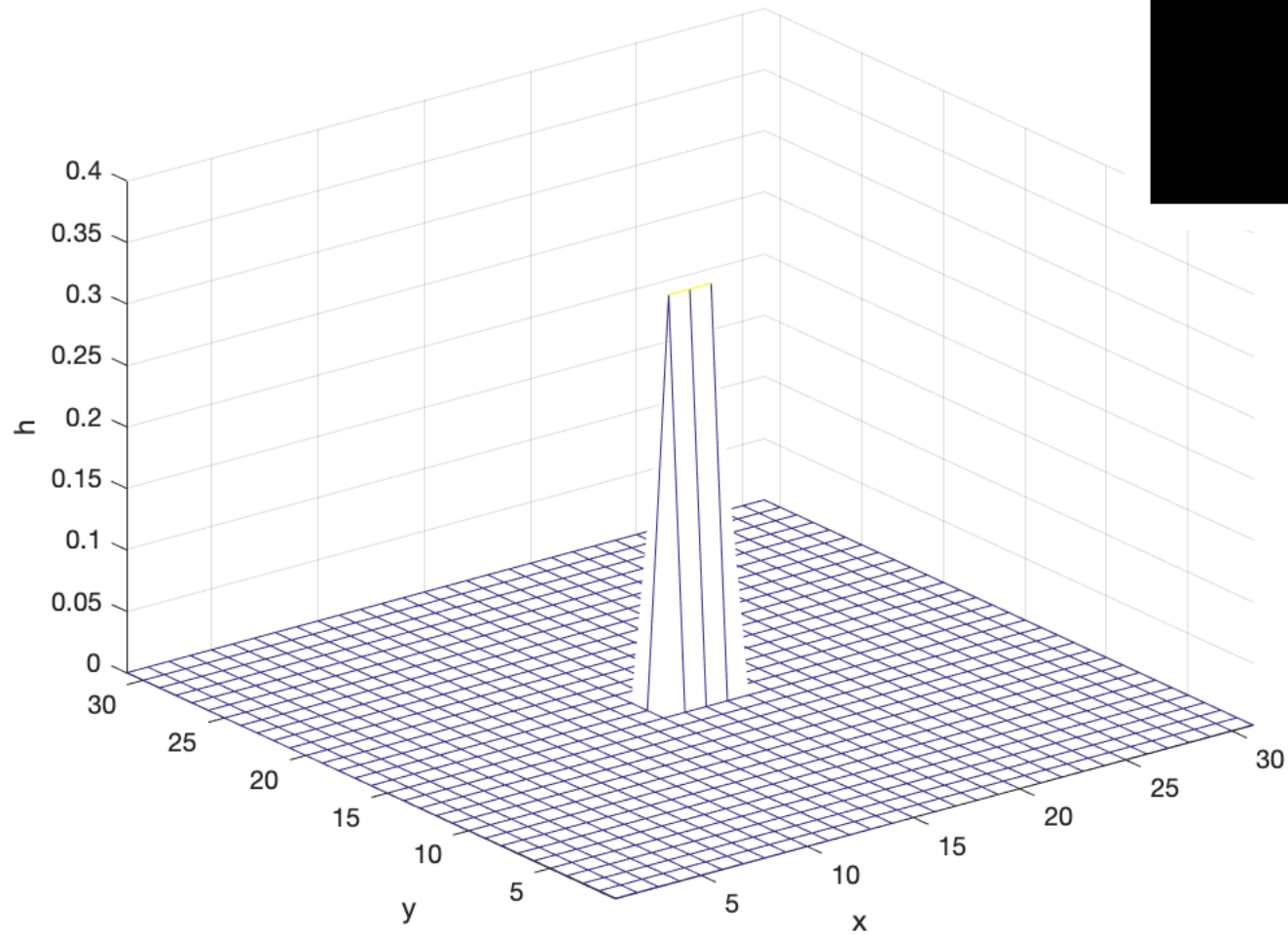
H en el dominio del espacio es conocido como PSF (*point spread function*),
o bien como OTF (*optical transfer function*) en el dominio de la frecuencia

PSF: Point Spread Function

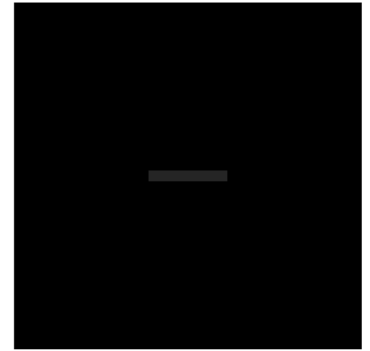
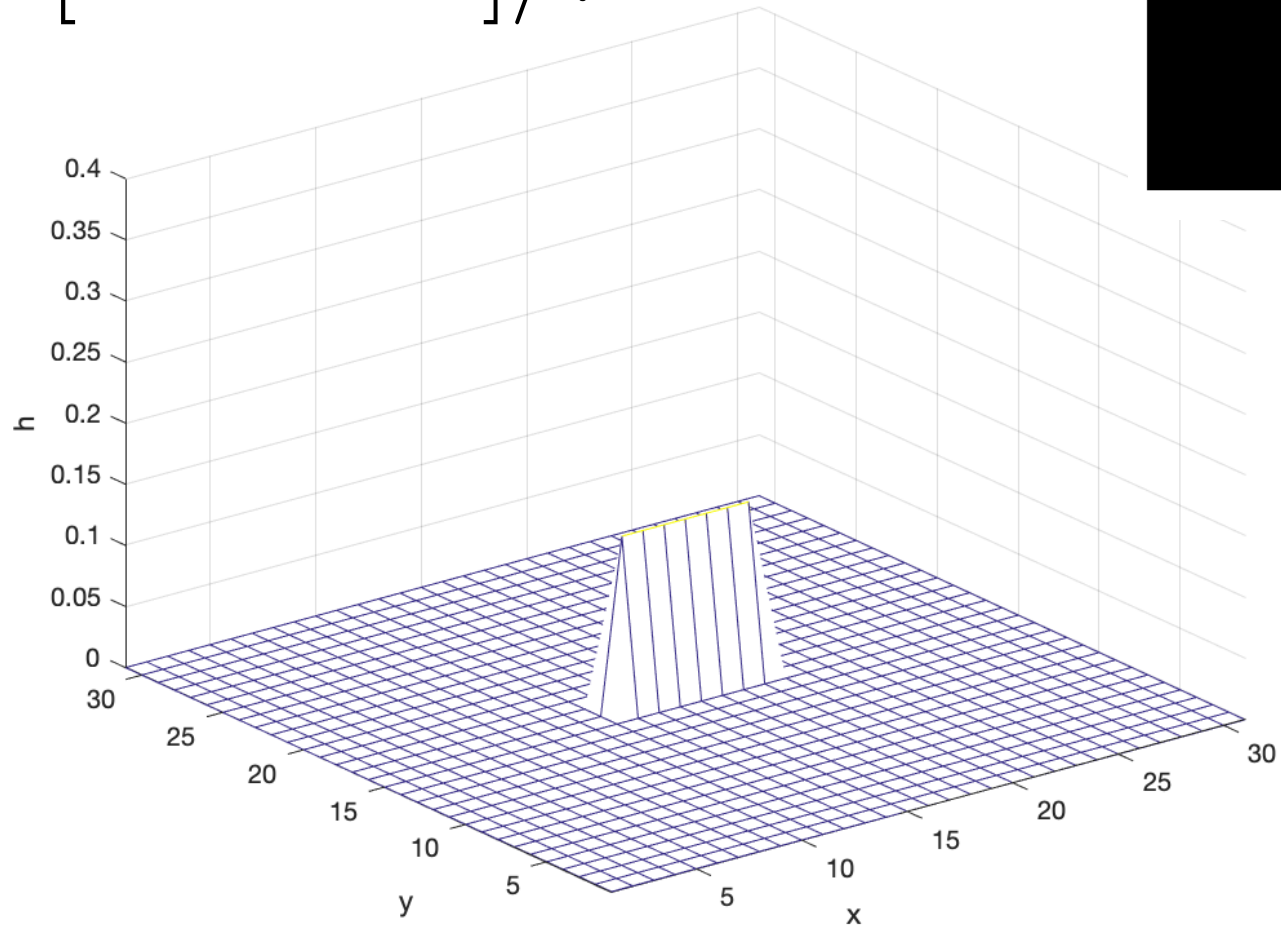
$$h = [1 \ 1 \ 1]/3$$



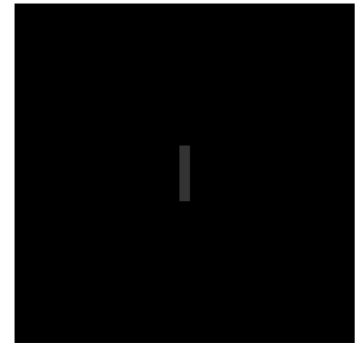
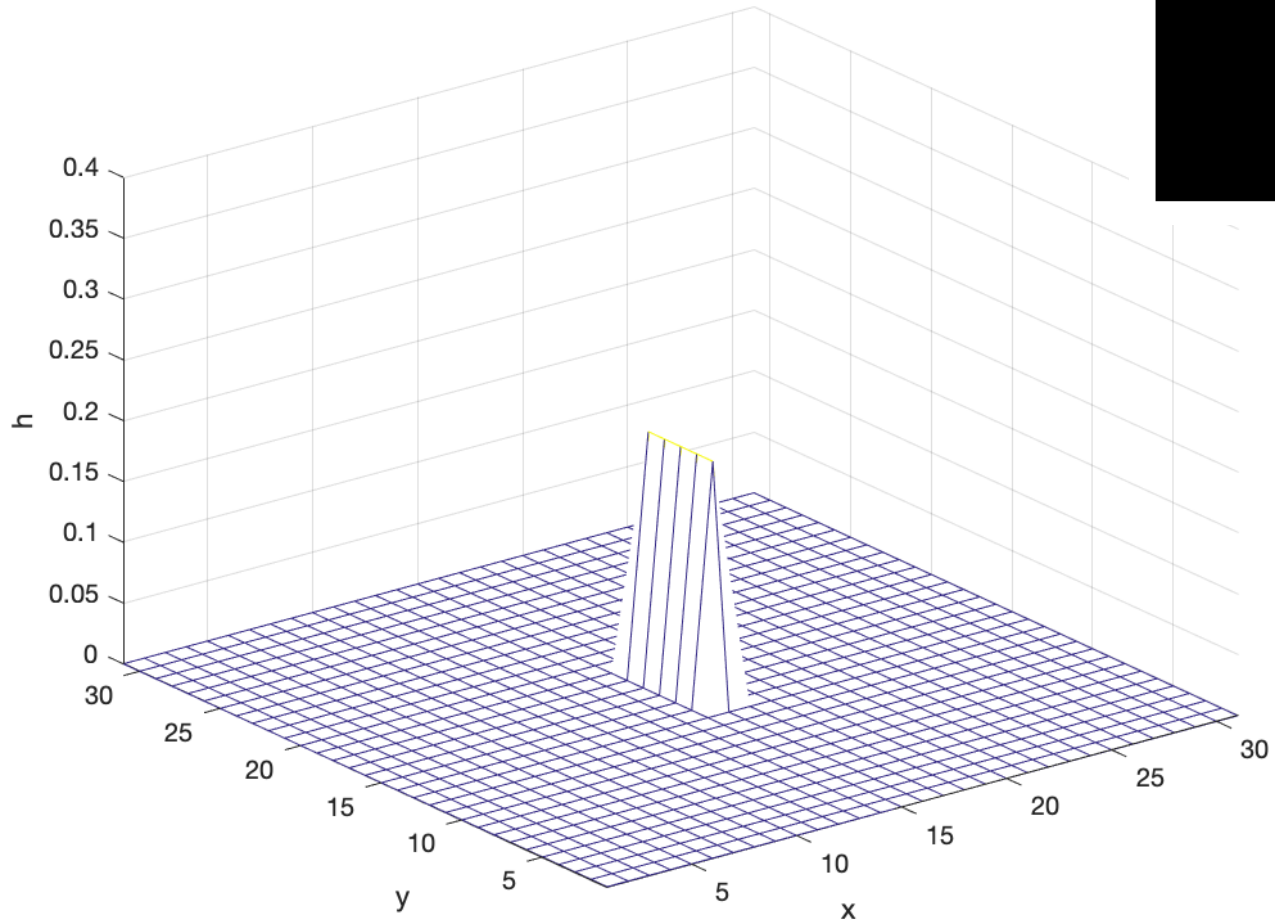
$$h = [1 \ 1 \ 1]/3$$



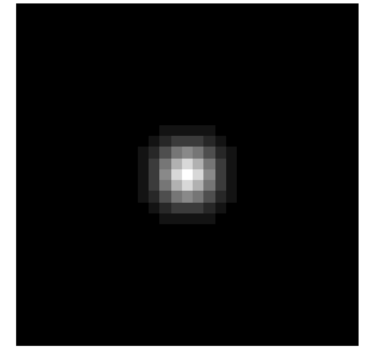
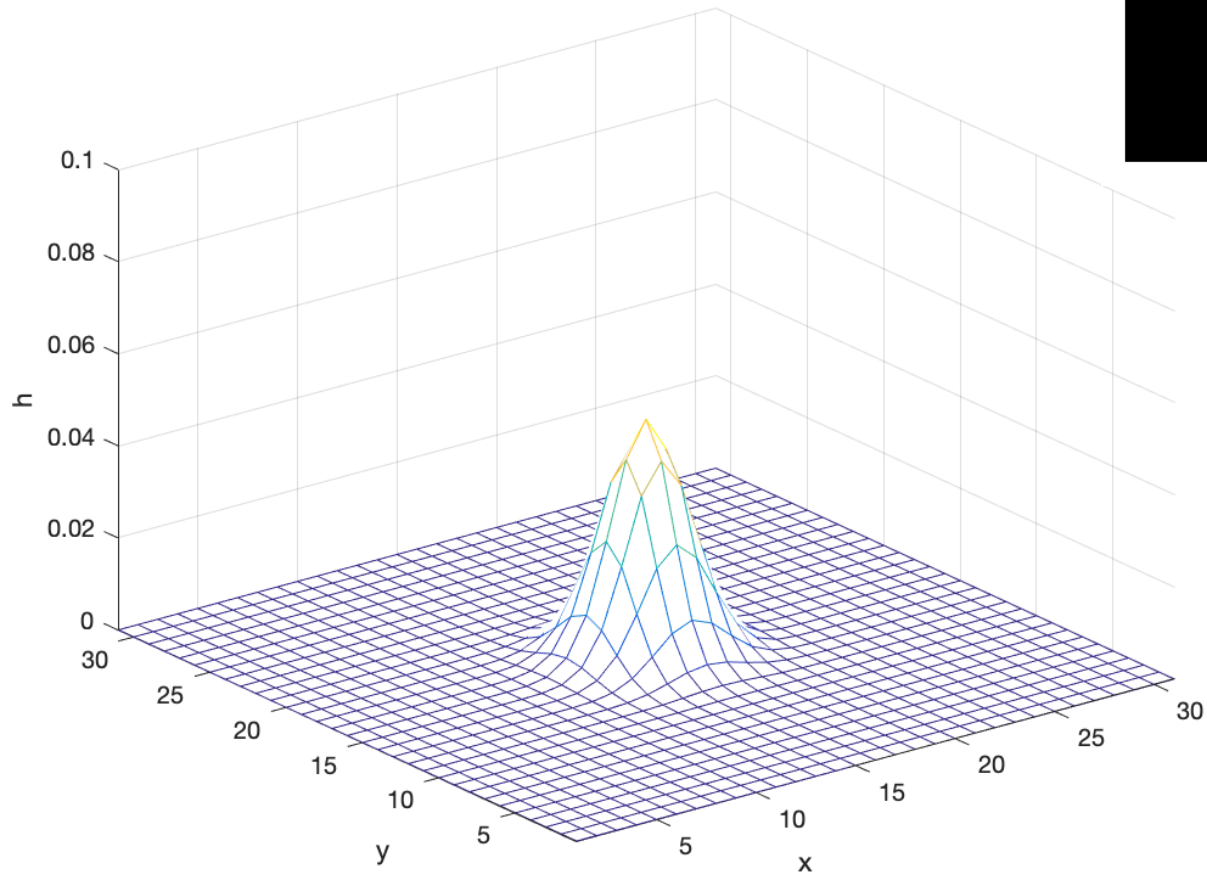
$$h = [1 \ 1 \ \dots \ 1]/7$$



$$h = [1 \ 1 \ \dots \ 1]^T / 5$$



$h = \text{Gaussian}$



Ejemplo

Movimiento Lineal Uniforme

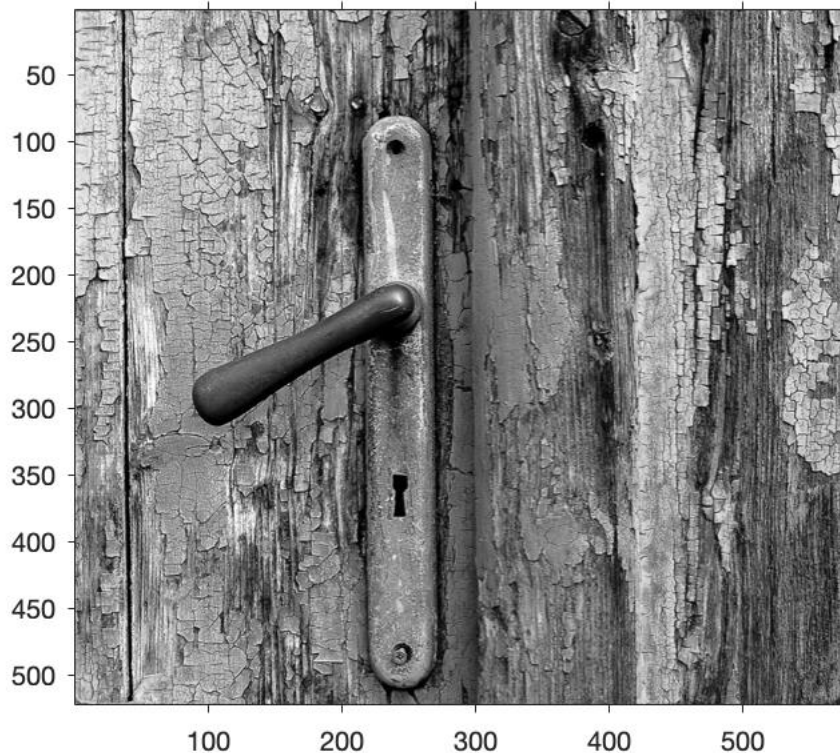


$$h = [1 \ 1 \ \cdots \ 1]/37$$

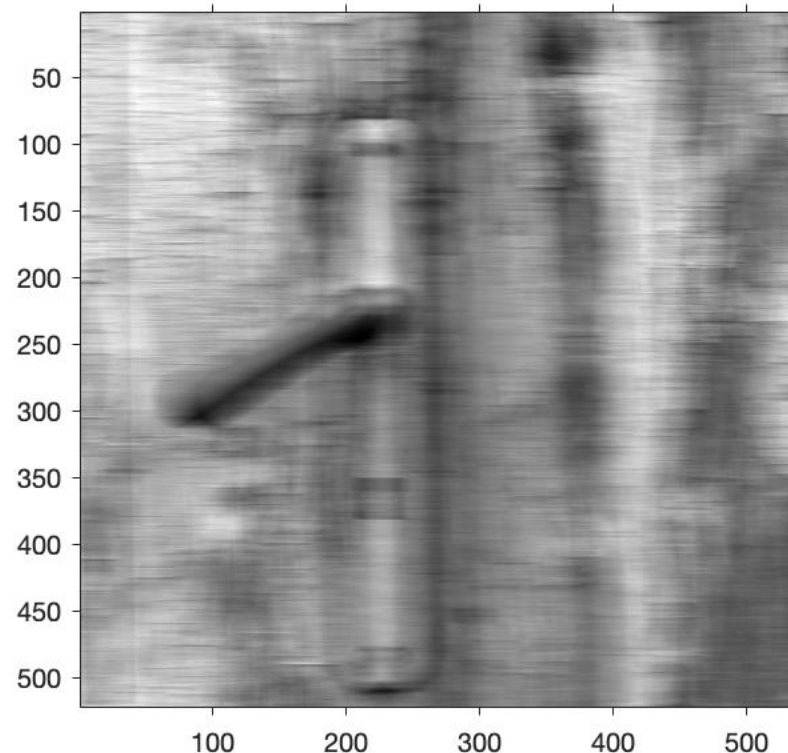


$$h = [1 \ 1 \ \cdots \ 1]/37$$

F

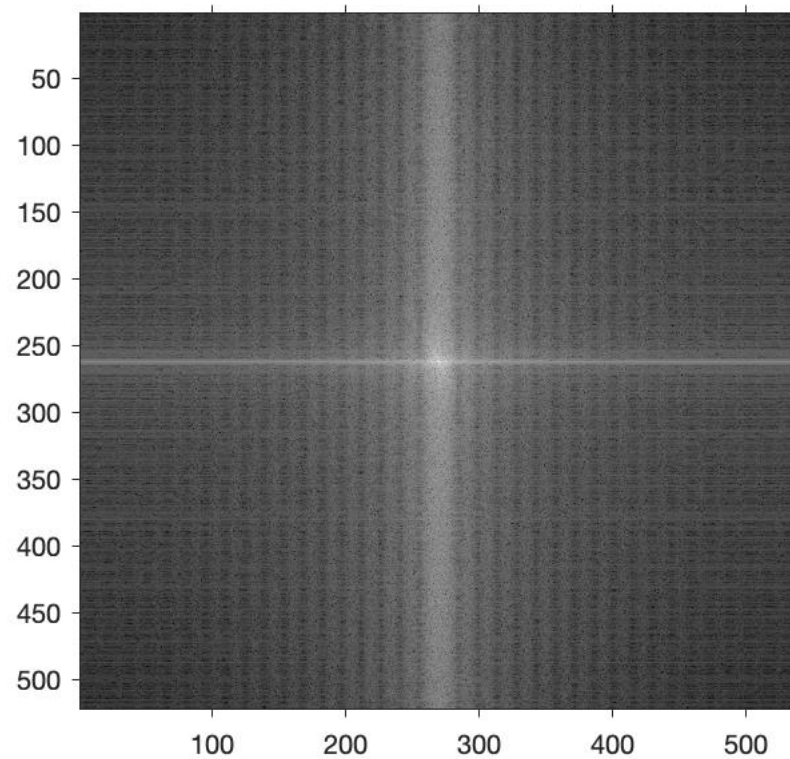
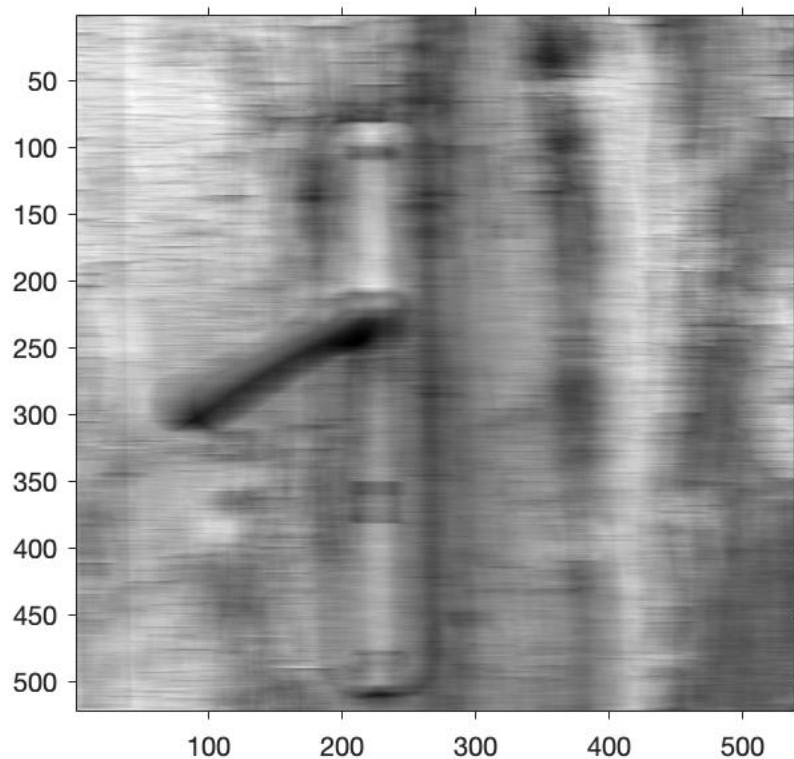


G

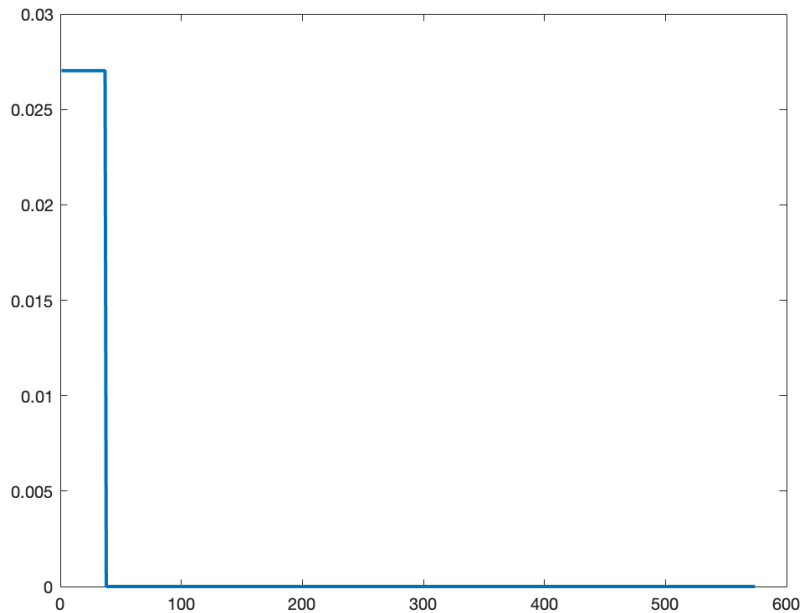




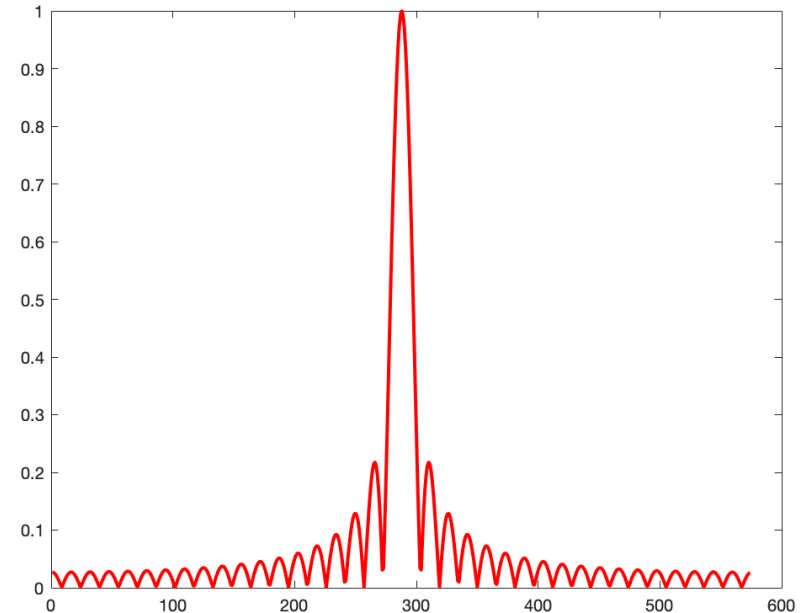
G



$$h(x)$$



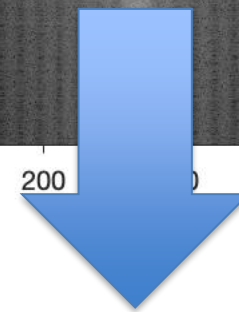
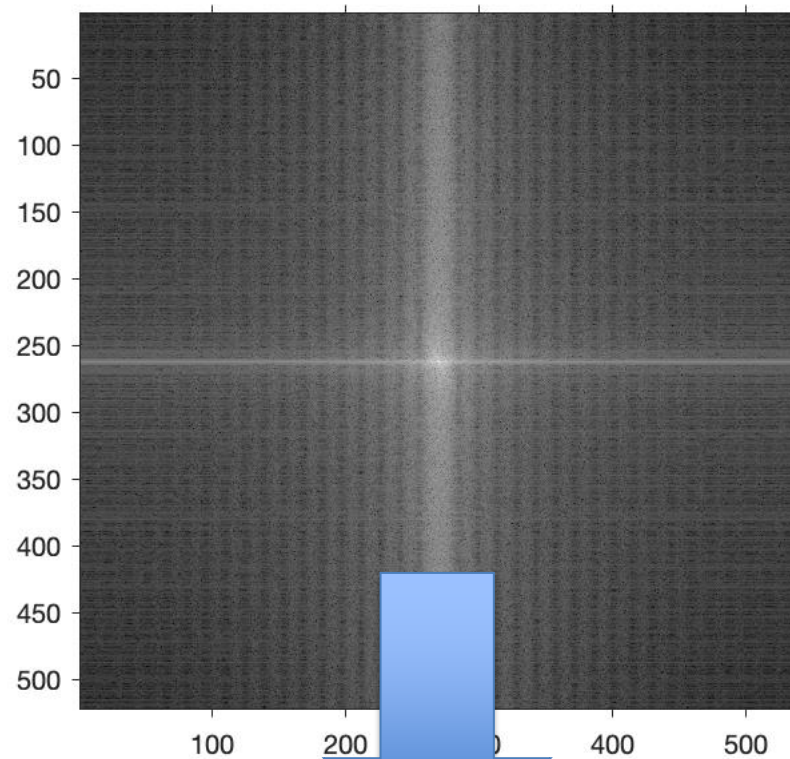
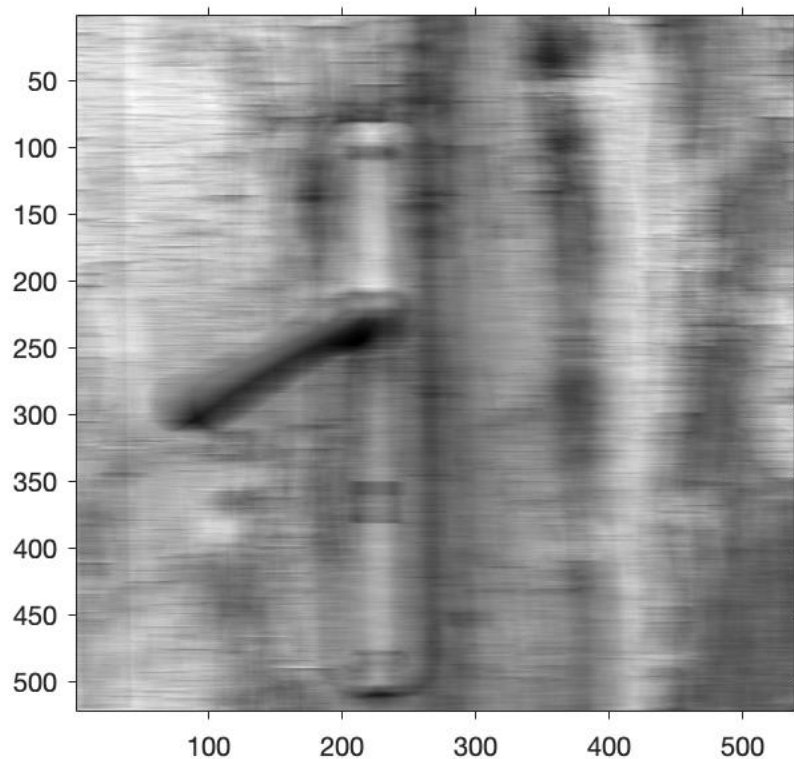
$$H(\omega)$$



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

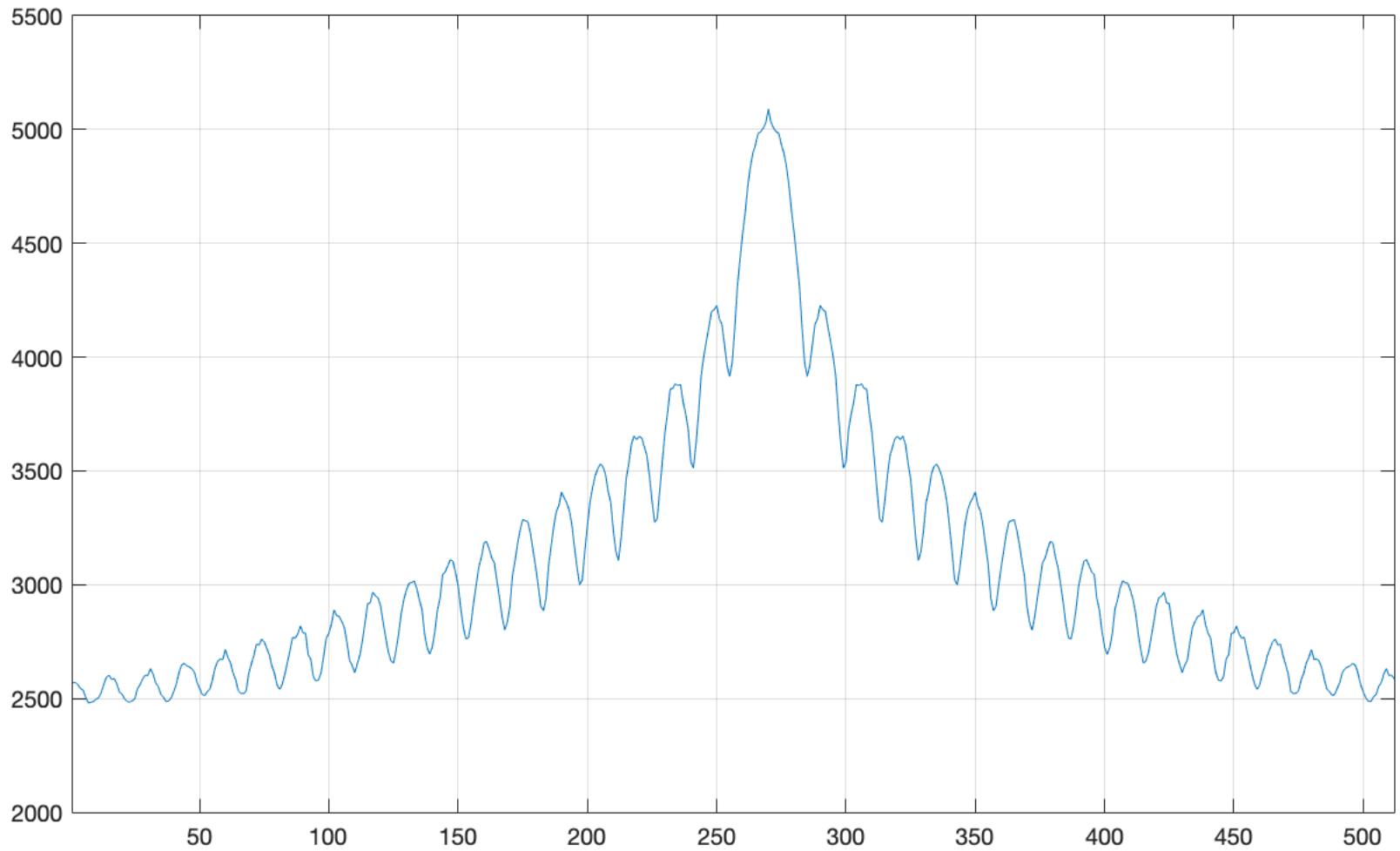


G



PROMEDIAR

PROMEDIO DE LAS FILAS DE LA TRANSFORMADA DE FOURIER



DFT DEL PROMEDIO DE FILAS

