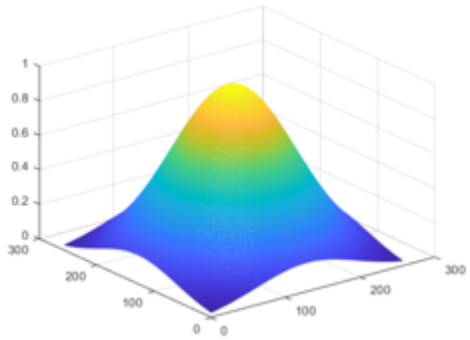
Table of Contents

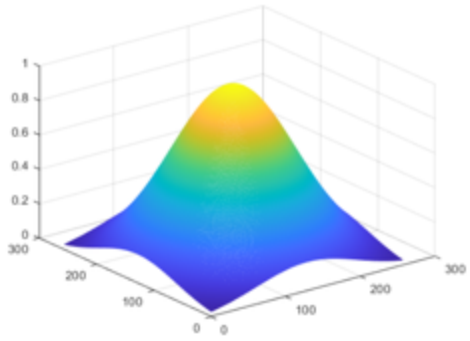
E7

```
tamano = 257;
sigma = tamano/3.8;
filtro_gaussiano = fspecial('gaussian', 257, sigma);

% Normalizar
filtro_gaussiano = filtro_gaussiano / max(filtro_gaussiano(:));

% Mostrar la imagen
mesh(filtro_gaussiano);
```

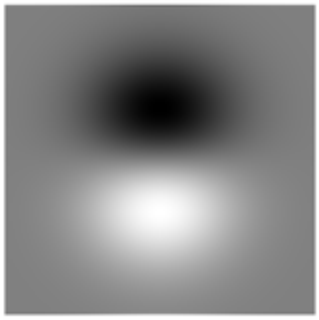


2

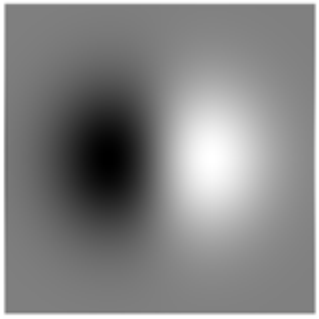
```
Sy = fspecial('sobel')/4;
Sx = Sy';
im = double(im);
imYSobel = imfilter(im, Sy);
imXSobel = imfilter(im, Sx);

figure, imshow(imYSobel,[]),title('Gradient Sobel Y')
figure, imshow(imXSobel,[]),title('Gradient Sobel X')

mod= sqrt(imXSobel.^2+imYSobel.^2);
dir= atan2(imXSobel,imYSobel);
figure, imshow(mod,[]),title('Modul')
figure, imshow(dir,[]),title('Direccio')
```



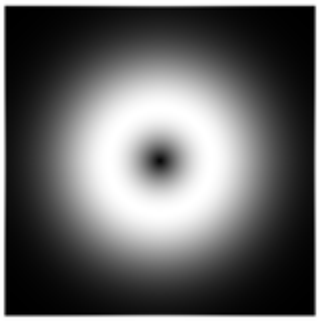
Gradient Sobel Y

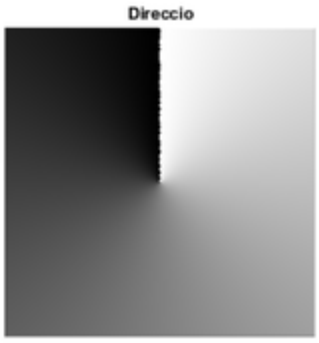


Gradient Sobel X



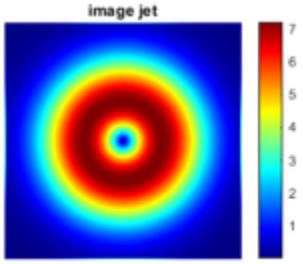
Modul





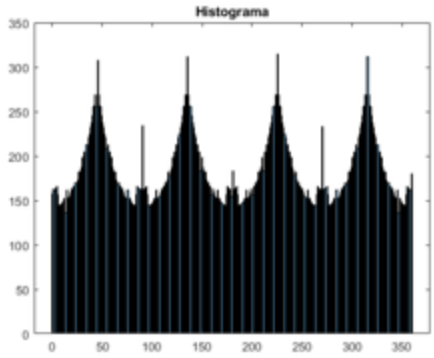
3

```
figure, imshow(mod,[]),title('image jet')
colormap jet
colorbar
% El gradient més elevat es troba al costats del centra
```



4

```
%pasar de pi a grados
grados = (dir + pi) * (180 / pi);
figure, histogram(grados,360),title('Histograma');
% No es uniforme perqué
```



Published with MATLAB® R2023a