

Image filtering and histogram

Problem 1

In this exercise we consider the following image *the galaxy* (figure : 1).
Test on this image the following algorithms: Robert gradient, sobel, gradient, Laplacian.
Join a copy of your Matlab code in the report.

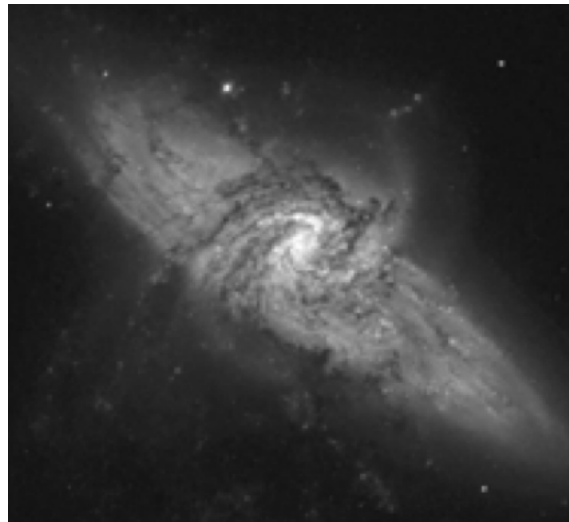


Figure 1: Test image

▮ Problem 2 ▮

Add a gaussian white noise on the image (figure : 1) and then use a spatial low-pass filter to eliminate the artefacts.

Give the measure of the PSNR of the image with noise and of the filtered image.

Then on the original image use a spatial high-pass filter on the original image to enhanced the transitions.

Join a copy of your Matlab code in the report.

▮ Problem 3 ▮

Enhance the contrast on the scan image (figure : 2). Join a copy of your Matlab code.



Figure 2: Scan Image