

ABSTRACT

Image enhancement often used by filtering way in remote sensing application. In processing images, filtering techniques have various purposes, either to reduce noise contained in image data. This kind of filter often used in remote sensing.

This final project will try to compare the performances between Pixon and Conjugate Gradient method based on their endurances toward noise (Gaussian and Laplacian). This type of noise will be tested with objective parameter PSNR (Peak Signal to Noise Ratio) and subjective parameter MOS (Mean Opinion Score).

The implementation indicate that method of Pixon and conjugate gradient own good ability in handling type of Gaussian noise. This matter because of ability PSF (point spread function) of Gaussian is more suitable for Gaussian noise. But if these methods are applied for Laplacian noise, the expected result is not optimal or yield bad image quality. The relation between performances with PSNR is the smaller error of an image hence PSNR value tends to increase, and on the contrary.

Keywords: Pixon, Conjugate Gradient, noise filtering, PSNR (Peak Signal to Noise Ratio), MOS (Mean Opinion Score), process time, image processing