Kata kunci : *Pengurangan Noise, Mathematical Morphology, Morphological Image Cleaning (MIC), Similarity.*

ABSTRACT

Several research have been done for noise reduction on noisy image, also with alot of theory. In generally the theory of noise reduction will not preserve the detail of the image because of blurring process.

Mathematical Moprphology as Mathematic method is tried to implements in this case. Usually when we want to reduce noise from the noisy image always faced on two choices against, when we want to reduce noise with blurring method, the details becomes smooth even loss, but on the contrary when want to preserve the details, it will be dificult to reduce the noises.

Mathematical Morphology that implemented in Morphological Image Cleaning (MIC) Algorithm process the noisy image into two step. First by build the smooth image from the noisy image using OCCO (Open Close Close Open) filter and second by process the residual image using Tophat and Bothat Filter. The result from both process then combine to produce the filtered image that ideally preserve the detail and has smooth region between them.

In this final task, Mathlab will use as a tool for developving the testing software, the performance parameter that will be tested on digital image is *Similarity*, the similiar level between filtered image and original image. Similarity is difference of energy between the original image and filtered image. The same image is the image that has Similarity as zero.

Key Words : *Noise Reduction,Mathematical Morphology, Morphological Image Cleaning (MIC), Similarity..*