

ABSTRACT

The use of digital video has become a distinct trend. This is caused by the characteristics it has, that we may receive information more easily and clearly. However, when carried out the shooting process often there are noise, which causes of irregular spots. If this happens, then the video processing will be done will not give optimal results. Therefore, the *noise filtering* process is required to reduce the *noise* contained in the video.

In this final task of the techniques used block *Singular Value Decomposition* (SVD) with the help of *Discrete Fourier Transform* (DFT) to reduce the noise contained in digital video. *Noise* that is generated to simulate are *Gaussian, Salt and Pepper, Speckle, and Poisson noise* with different levels intensity. With this technique, the matrix that represents the noise of the video will be explained, so we know the matrix components are affected by *noise*.

From the research results can be seen that the SVD block technique with the help of DFT can be used to reduce noise in digital video. This can be seen from the value of *Mean Square Error* (MSE) from filtering results in Gaussian Noise variance 0.02 about 89-302 with MSE noise video about 700-2000 and the value of *Peak Signal to Noise Ratio* (PSNR) from filtering results about 23-29 dB with PSNR noise video about 17-20 dB.

Keywords : *digital video, block SVD, noise filtering, Gaussian noise, Salt and Pepper noise, Speckle noise, Poisson noise.*