

## **ABSTRACT**

The IDRA Radar (IRCTR Drizzle Radar) is a high resolution radar built by IRCTR in the Netherlands. The IDRA Radar illustrates the potential rainfall intensity detected by weather radar. From the IDRA radar observations, it was obtained the results of the data which were processed into radar images so that they could know the intensity of rainfall. In this research, radar image were added with the Singular Value Decomposition (SVD) method as a function of compression and decompression of radar images. And do the compression again by adding the Discrete Wavelet Transform (DWT) method.

By adding Singular Value Decomposition (SVD) method as a function of compression and decompression it will be performed to find the performance value of the result of the compressed image. By using the Singular Value Decomposition (SVD) method the effect of selecting the number of singular values on the result of the reconstruction image will be seen. By adding the Discrete Wavelet Transform (DWT) method to SVD compression as image compression, it will be seen how the effect of compression on the type of wavelet used. So, from the use of the SVD, DWT and SVD-DWT method a comparison of the performance results obtained will be seen.

The final goal in research is to look for performance values obtained from image compression result and comparative analysis of performance result in adding SVD, DWT and SVD-DWT method. To find out the performance of the result of the compression process, PSNR, MSE, and compression ratio calculations are performed. From all the test resulta using SVD with singular value selection, DWT with selection of wavelet type and decomposition level and SVD-DWT with wavelet type selection is expected to get better performance value than PSNR, MSE, and compression ratio.

**Key Word** : Radar IDRA, SVD, DWT, PSNR, MSE, compression ratio.