

ABSTRACT

Dentistry is one of the most important parts of the body to chew the food to be digested properly. Tooth consists of enamel, dentin and pulp. Mechanical, chemical, and temperature bacteria can cause infection in the pulp. This is called pulpitis. Pulp disease can be classified as reversible and irreversible pulpitis.

This research was conducted with several stages such as image acquisition, pre-processing, feature extraction and kalisifikasi. In this study used a method Singular Value Decomposition (SVD) as feature extraction. Singular Value Decomposition (SVD) is a linear algebraic methods that break down the matrix A dimension $m \times n$ matrix into three USVT. U is a matrix of size $m \times n$, S is diagonal dimension $m \times m$ and V is a matrix of size $n \times m$. Singular value decomposition of the matrix A is expressed as $A = USV^T$. For the classification quality using K-Nearest Neighbor (K-NN).

Results of research has achieved 80% accuracy with teeth image classification is divided into three types: normal tooth image, the image of pulpitis reversible and irreversible pulpitis image by using the results of radiographs as test images. Used as a sample image of the train 6 and 30 test images.

Keywords : Radiograph, Pulpitis, Singular Value Decomposition