ABSTRACT

Teeth are one of vital organ in human body that has disgestion function to tear, chew, and bite. Teeth consist a several structure layer such enamel, dentine, and pulp. Pulpitis is disease that commonly suffered by people, and one of cause teeth cavity. Cause of pulpitis usually from sweet food, bacteria, or external factor such as preassure. Dentist examine the patient with detection gear manually, or use X-ray based rontgen to detect the disseas.

Pulpitis detection through radiograf periapical is a method to detect pulpitis. In this final project, used DWT method, K-NN as classification. And at pre-processing stage it used cropping, segmentastion, RGB to grayscale, Adaptive Histogram Equalization, and resize. In this project used 20 piece of pulpitis image that consist 10 pieces of irreversible pulpitis image and 10 pieces of reversible pulpitis image.

Parameter that measured in this final project are convergence, accuracy, and computational time. In this final project, found out that the data isn't convergence at several extraction feature. The accuracy of system in this final project are 100 % at HL3 subband with the value of k is 1. Also the longest computational time is 2.52 second at HH3 subband with energy feature extraction.

Keyword : *Pulpitis, DWT, K-NN, grayscale, Adaptive histogram equalization, Radiology*