

Thesis Title	A Method of Panoramic Image Reconstruct from Full Mouth Images by Using Pulp Cavity Detection
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Abstract

In dental surgery diagnosis, the dentist uses the full mouth and panoramic view radiographic image. The full mouth radiography is a narrow view, but it is a distinct image. For panoramic view radiography, all teeth are taken in one image. However it has a distorted size and teeth pattern. The dentist would like to see the full mouth image, which has the correct size and teeth pattern.

This thesis proposes a method of panoramic image reconstruction by matching the same teeth image between two different images and merging these images together. In this method, the pulp cavity from tooth of the full mouth radiography, which is detected, is provided in two patterns. These patterns consist of one root and two roots defined to be H pattern and I pattern respectively by chain coding for each tooth. The chain codes of each tooth in the first frame are compared with the next frame by checking possible sequence of matching. To confirm the results of matching, the correlation matching is applied. Then two frames are merged by overlapping the centroid of pulp

cavity, same teeth in two frames. The method is performed with 85 full mouth radiographs which have 150 teeth. The results show that the method succeeds in matching 142 teeth that is 94.67 percent.

Keywords : Full Mouth Radiography / Dental Radiology / Correlation
Matching