QUALITY ASSURANCE OF IMAGE FUSION OF PINNACLE-3 RADIATION TREATMENT PLANNING SYSTEM AND EVALUATION OF TREATMENT PLANS BY DOSE VOLUME HITOGRAMS

A PROJECT REPORT PRESENTED

BY

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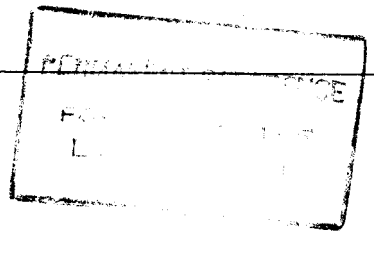

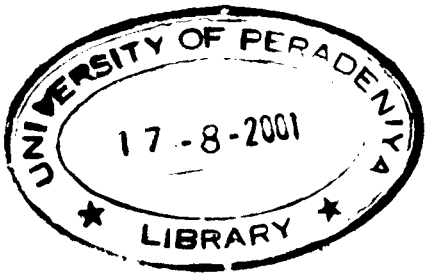

Abstract

Title of the report : Quality assurance of image fusion of pinnacle-3 radiation treatment planning system and Evaluation of treatment plans by dose volume histograms

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Quality assurance of the software option called Image Fusion of the Pinnacle-3 Radiation Treatment Planning system (version-4.0f) was carried out by checking the linearity of the CT and MR images of the test phantom.

Then using the Pinnacle-3 Radiation Treatment Planning system (version-4.0f) Dose Volume Histograms (DVHs) were obtained for target and normal organs at risk for different treatment planning techniques with the set of images of a patient. Normal Tissue Complication Probability (NTCP) and Tumor Control Probability (TCP) were also calculated by the system to get the better plan for treatment.

In the image fusion software option the observed difference of the distances of the CT and MR images was ±2mm.

The technique which gives the maximum value for Probability of Uncomplicated Local Control (PULC) is the best plan for treatment.