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Abstract

X-ray CT scanners provide images of transverse cross sections of the human body from a large number of projections. During the acquisition of image data, the motion of patient produce effects that appear as blurring, doubling, and distortion in the reconstructed images. This degrades the image quality and can lead to wrong diagnosis. In this work a technique has been developed and tested that removes these effects in brain CT scanning for step, linear and rotational motions of head during CT scanning process. The motion of head is modeled as rigid body motion. The three-dimensional motion information is used to correct the CT data before reconstructing the image from it. The images are found to be free of motion effects. The results demonstrate the validity of this approach for above stated types of head motion of patients during CT data acquisition process.

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Index Terms

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