

METHODS AND APPARATUS FOR SCANNING AN OBJECT IN A COMPUTED TOMOGRAPHY SYSTEM

ABSTRACT

The present invention, in one form, is a system for reducing contribution of scatter signal to an image of an object constructed from projection data acquired during a computed tomography scan. The system includes an x-ray source which emits an x-ray beam toward a detector array. A collimator plate is movable with respect to the detector array. The system is configured to move the collimator between a first position and a second position. In the first and second positions, the collimator does not cover the detector array, i.e., the collimator does not collimate the x-ray beam impacting the detector array. When moving between the first and second positions, the collimator at least partially covers the detector array, i.e., the collimator at least partially collimates the x-ray beam impacting the detector array. A first signal intensity at the detector array is obtained when the collimator is in the first position and a second signal intensity at the detector array is obtained when the collimator is moved between the first and second position. The determined signal intensities are then utilized to determine the scatter signal of the x-ray beam and to generate substantially uncorrupted projection data.

Fig.1