



## Layered 2D ray-averaging approximation

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In industrial contexts, computerised tomography (CT) involves rotation of the X-ray source around a circle surrounding the object. In the 3D case, there are significant mathematical issues obstructing exact reconstruction. These are partly resolved in practice by the FDK approximation (Feldkamp, Davis, & Kress, 1984). As part of an investigation into the use of CT in statistical quality control, we discuss an alternative and more intuitive approximation.

**Keywords:** CT scan; FDK approximation; layered 2D ray-averaging approximation; noise model.