

**Title:** Photo-acoustic Tomography with Circular Detectors

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**Abstract**

Photo-acoustic tomography is a novel non-invasive medical imaging technique. Traditionally, point-like detectors placed around a patient are used to collect pressure data. Then, an image of a patient is obtained by solving an inverse problem for the wave equation. A drawback of the traditional detectors is the limited resolution of the reconstructed images. To circumvent this deficiency, we propose a type of circular integrating detectors. The use of these detectors leads to an inverse problem for a Radon-type integral transform. We will demonstrate how to invert the transform using the spherical Radon transform and the Funk-Minkowski transform. Numerical experiments will be presented as well.