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Tomographic methods in medical imaging

Thursday 11 September 2025 10:00 (1 hour)

In medical imaging, dedicated cameras are used to capture images, and medical images are typically three-dimensional images. These three-dimensional images are generated from a series of datagrams or images of sections and/or projections, which is achieved by tomographic reconstruction. Magnetic Resonance Imaging (MRI), Computed Tomography (CT), Positron Emission Tomography (PET) and Single Photon Emission Computed Tomography (SPECT) are typical examples of different imaging modalities where tomographic reconstruction methods are used. This lecture gives a brief introduction to Fourier transform based reconstruction (MRI), filtered back projection (CT) and iterative reconstruction (PET and CT).

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