

Inverse Transport with Diffusion-type Measurements

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Inverse problems in optical tomography consist of reconstructing the optical properties of tissues from boundary measurements of photon intensities that are usually averaged in the angular variable, e.g., when only currents are available at the domain boundary. Whereas an fairly extensive mathematical theory exists on the reconstruction of optical parameters from full (phase-space) measurements in transport theory, very little is known about reconstructions from angularly averaged measurements. We will review recent results obtained recently on the subject.