Meeting: 1003, Atlanta, Georgia, SS 5A, AMS Special Session on Radon Transform and Inverse Problems, I

1003-45-1306 **Rolf Clackdoyle*** (rolf@ucair.med.utah.edu), Radiology Department, C.A.M.T., University of Utah, 729 Arapeen Drive, Room 201, Salt Lake City, UT 84108, and **Frederic Noo**. *Region of Interest Reconstruction in Classical Tomography.*

We present an overview of the current state-of-the-art in region of interest (ROI) reconstruction in classical 2D tomography. It is now known that certain proper subsets of the collection of all line integrals through the object admit stable ROI reconstruction. For the classical interior problem no such ROI exists, but there are many other cases for which a ROI can be found. We present two techniques that can be applied to establish which ROI's are stably recoverable from a given collection of line integrals. We also provide some examples for which it is not currently known if ROI reconstruction is possible. (Received October 04, 2004)