

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

1003-92-1623 **Alfred K Louis*** (louis@num.uni-sb.de), Institut fuer Angewandte Mathematik, Universitaet des Saarlandes, 66041 Saarbruecken, Germany. *3D X - Ray CT*.

In this lecture we derive an exact inversion formula for the cone beam transform and discuss its implication for numerical realizations. To this end we consider invariance properties of the involved operators being a backprojection and a filtering of the data. The consequences for a circular scanning geometry are explicitly given and reconstructions both from simulated and from real data are presented. (Received October 05, 2004)