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**Abebaw Tadesse\***, atadesse@langston.edu, and **Andrew Bucki**. *Radiation therapy planning as an inverse problem – Mathematical perspective*. Preliminary report.

In this talk, we will discuss recent developments of radiation therapy planning from a mathematical perspective. Particular emphasis is given on the two fundamental approaches: Continuous analytic inversion and fully-discretized algebraic methods. Some 2D artificial geometries and anonymized imaging data available at the CERR (Computational Environment for Radiation Therapy Research) archive will be used to demonstrate recent developments on algebraic/numerical techniques. (Received August 13, 2014)