

1119-68-229

James L Carroll* (j1carroll@lanl.gov). *Radiographic assessment from static object measurements using a sensitivity study.*

One approach to solving the inverse problem from a given radiograph is the forward modeling approach (sometimes called analysis by synthesis). In this presentation we explore the task of determining uncertainties in a given radiographic system, using radiographs of known characterization objects. Uncertainties could then be assessed by reconstructing the object from the radiograph, and then comparing the reconstruction with the known features of the object. However, another approach would involve performing a sensitivity study on the radiograph. We show that the forward modeling technique for solving the inverse problem is especially amenable to the use of sensitivity studies. This approach has several potential advantages, which we will demonstrate. (Received February 16, 2016)