

1077-46-2104 **Bonnie C. Jacob*** (bcjntm@rit.edu). *Selection of an optimal source to make the optical tomography problem less ill-posed.*

Optical tomography is an imaging method that has a great deal of allure in medical applications in particular because it does not cause harm to a patient. However, the ill-posed nature of the problem makes optical tomography difficult to use in practice. To combat this problem, we have worked on developing a method to choose a source that makes the problem as well posed as possible. The process depends on the choice of spaces, which we consider as well. In this talk, I will discuss the process of choosing an optimal source, as well as the analytical solution in a simple case. Finally, I will briefly describe an analogue of the problem on a network. (Received September 21, 2011)