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Bonnie Jacob* (bcjntm@rit.edu). *Identification of nodes in a network: a discrete analogue of optical tomography.*

In this talk, we discuss a problem that consists of characterizing nodes as either “scattering” or “absorbing” in a network using the behavior of a signal on the network. We will also look at how initial conditions — i.e., the choice of sources— affect the ability to characterize the nodes. This discrete problem is based on the inverse problem of optical tomography, an imaging method. (Received September 22, 2010)