

1113-00-152

Taufiqar R Khan* (khan@clmson.edu), Department of Mathematical Sciences, Clemson University, Clemson, SC 29634. *Sparse Reconstruction in Diffuse Optical Tomography.*

In this talk, a short overview of the basics of image reconstruction in diffuse optical tomography (DOT) will be presented. A sparsity constrained reconstruction problem in DOT for determining the optical parameters from boundary measurements will be presented. The sparsity of the inclusion with respect to a particular basis is assumed a priori. The proposed approach is based on a sparsity promoting l1-penalty term similar to the approach recently proposed in electrical impedance tomography. We will present some preliminary simulation results and discuss present and future work in sparsity approach in DOT. (Received August 19, 2015)