

1116-35-2281 **Francois S Monard*** (monard@umich.edu), Department of Mathematics, U of Michigan, 2074 East Hall, 530 Church Street, Ann Arbor, MI 48109-1043. *Inversion of the attenuated geodesic X-ray transform on simple surfaces.*

In this talk, we will present explicit reconstruction algorithms for the attenuated geodesic X-ray transform over functions and vector fields, with applications to Computerized Tomography and Doppler tomography in media with varying refractive index. Derivations and numerical implementations will be presented in the case of simple surfaces. (Received September 22, 2015)