

1032-44-48

**Philip T Gressman\*** ([philip.gressman@yale.edu](mailto:philip.gressman@yale.edu)), 10 Hillhouse Avenue, New Haven, CT 06511. *Rank-type  $L^p$ - $L^q$  and Sobolev estimates for averages over submanifolds.*

This talk will discuss recent results concerning sharp  $L^p$ - $L^q$  and Sobolev mapping properties of Radon-like operators which satisfy a homogeneity condition (similar to semiquasihomogeneity) and a condition on the rank of a matrix related to rotational curvature. For highly degenerate operators, the rank condition is generically satisfied for algebraic reasons, similar to an observation of Greenleaf, Pramanik, and Tang (J. Func. Anal. **244** (2007), no 2, 444-487) concerning oscillatory integral operators. (Received July 31, 2007)