TEMPLE UNIVERSITY

Department of Mathematics

Analysis Seminar

Room 617 Wachman Hall

Monday, October 16th, 2023, 2:30 p.m.

Regularization of the trace of an equivariant operator

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Abstract: Let $\mathcal{N}$ be a closed n-manifold foliated by the orbits of a group G of diffeomorphisms isomorphic to a torus, let $f : \mathcal{N} \to \mathcal{N}$ be a smooth function sending leaves to leaves. Assuming certain transversality condition on the function I'll describe how to regularize the trace of $f^* : C^\infty(\mathcal{N}) \to C^\infty(\mathcal{N})$. The group G will be the closure of the one-parameter group of isometries generated by a smooth nowhere vanishing vector field $\mathcal{T}$ preserving a Riemannian metric, with $f_*\mathcal{T} = \mathcal{T}$ and the L^2 space defined using the Riemannian measure. I plan to give a sense of what G is (using an embedding of $\mathcal{N}$ in some $\mathbb{C}^N$), also review the notion of wave front set and a theorem of Hörmander on restriction of distributions. Part of the talk is based on joint work with L. Hartmann.