
CLAIRE DEBORD, Université Blaise Pascal–Clermont-Ferrand

Index theory on pseudomanifolds

We will see how one can define a good notion of tangent space for a general stratified pseudomanifold X . The tangent space will no longer be a vector bundle but a groupoid whose C^* -algebra is Poincaré dual to the algebra $C(X)$ of continuous functions on X . I will introduce a variant proof of Atiyah–Singer index theorem using groupoids and we will see that all the ingredients (analytical index, Thom isomorphism and topological index) as well as the proof of the index theorem generalize easily to the case of pseudomanifolds with isolated conical singularities as soon as one uses our notion of tangent space.