

Seminario de Geometría y Topología



Real Lipschitz structures and bundles of irreducible Clifford modules

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Resumen:

I will obtain the topological obstruction to the existence of a bundle of irreducible real Clifford modules over a pseudo-Riemannian manifold of arbitrary dimension and signature. Such bundles are associated to Lipschitz structures, a generalization of spin structures based on certain groups which we call real Lipschitz groups. I will classify the latter and establish an equivalence of categories between the groupoid of Lipschitz structures and the groupoid of bundles of irreducible real Clifford modules. Using these results, I will prove that M-theory can only be defined on an oriented spin manifold if the supersymmetry parameter is taken to be a global section of a bundle of irreducible Clifford modules. This is work done in collaboration with Calin Lazaroiu.

Lugar: Universidad Complutense de Madrid
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