

1054-46-173

Leonel Robert* (leonel.robert@gmail.com) and **Aaron Tikuisis**. *Fields of Hilbert spaces over a topological space.*

A field of Hilbert spaces may be expressed as a supremum of locally trivial vector bundles defined on open subsets of the base space. This point of view may be exploited to transplant results from the theory of vector bundles to the setting of fields of Hilbert spaces. For example, one can always embed a field of Hilbert spaces inside another one with sufficiently larger dimension (depending on the covering dimension of the base space). One can use clutching functions to construct new fields of Hilbert spaces from old ones. If the base space has dimension at most 3, all the isomorphism classes of fields of Hilbert spaces may be described in terms of cohomological data. I will talk about these and other results obtained recently in collaboration with Aaron Tikuisis. (Received September 13, 2009)