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Igor V. Nikolaev* (igor.v.nikolaev@gmail.com), Da Silva Academic Center, St. John's University, 300 Howard Avenue, Staten Island, NY 10304. *K-theory of Etesi C^* -algebras*. Preliminary report.

We consider a C^* -algebra $\mathbb{E}_{\mathcal{M}}$ of a smooth 4-dimensional manifold \mathcal{M} introduced by Gábor Etesi. It is proved that the $\mathbb{E}_{\mathcal{M}}$ is a stationary AF-algebra. We calculate the topological and smooth invariants of \mathcal{M} in terms of the K-theory of the C^* -algebra $\mathbb{E}_{\mathcal{M}}$. It is shown that the smooth structures on \mathcal{M} form a torsion abelian group under the connected sum operation. The latter is isomorphic to the Brauer group of a number field generated by traces on the $K_0(\mathbb{E}_{\mathcal{M}})$. Reference <https://arxiv.org/abs/2012.08237> (Received February 08, 2021)