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Classification of spatial L^p AF algebras

We first introduce the notion of L^p operator algebras and spatial L^p AF algebras. Our main result gives a complete classification of spatial L^p AF algebras. We show that two spatial L^p AF algebras are isomorphic if and only if their scaled ordered K_0 groups are isomorphic. Moreover, we prove that any countable Riesz group can be realized as the scaled ordered K_0 group of a spatial L^p AF algebra. Therefore, the classification given by G. Elliott for AF algebras also holds for spatial L^p AF algebras. Lastly, we discuss incompressibility and p -incompressibility for L^p AF algebras.