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Maria Grazia Viola* (mviola@lakeheadu.ca). *Separable exact C^* -algebras non-isomorphic to their opposite algebras.*

There are several examples in the literature of factors of type II_1 and type III which are not isomorphic to their opposite algebras. Since a C^* -algebra isomorphism of von Neumann algebras is necessarily a von Neumann algebra isomorphism, these are therefore also examples of simple C^* -algebras not isomorphic to their opposite algebras. However, none of these examples is separable or exact in the C^* -algebra sense. In a joint work with N. C. Philipps we construct uncountably many mutually nonisomorphic simple separable stably finite unital exact C^* -algebras which are not isomorphic to their opposite algebras. In particular, we prove that there are uncountably many possibilities for the K_0 -group, the K_1 -group, and the tracial state space of such an algebra. We give further information on the algebras we constructed, including showing that the order on projections is determined by traces, computing the Cuntz semigroup, and showing that the algebras have stable rank one and tensorially absorb the Jiang-Su algebra. We also show that these C^* -algebras satisfy the Universal Coefficient Theorem. (Received September 25, 2017)