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*A geometric approach to some equivalent  $C^*$ -algebras*

A result of M.A. Rieffel from 1981 states that two  $C^*$ -algebras associated to irrational rotations by  $a$  and  $b$  on the circle are strongly Morita equivalent iff  $a$  and  $b$  are in the same orbit under the natural  $GL(2, \mathbb{Z})$  action. We give an alternative proof of this fact based on analyzing the geometry of the underlying differentiable stacks given by the circle modulo the rotation actions. We also mention possible further research directions into studying the geometry of the quotient space by a general dynamics. This is joint work with M. del Hoyo and E. Pujals.