

Title: Morita theory for dynamical von Neumann algebras

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Abstract: Given a locally compact (quantum) group G , a G - W^* -dynamical system consists of a von Neumann algebra (= W^* -algebra) A together with an action of G on the von Neumann algebra A . We introduce and study the notion of Morita equivalence between G - W^* -dynamical systems as the existence of an equivariant bimodule with nice properties. We provide a categorical characterization of Morita equivalence of G - W^* -dynamical systems in terms of the equivalence of certain associated module categories. No prior knowledge about von Neumann algebras and locally compact quantum groups will be assumed.