

# Morita equivalence and representations up to homotopy

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Lie groupoids provide a geometric framework to deal with singular spaces such as orbifolds and, more generally, differentiable stacks. From this perspective, a differentiable stack can be seen as a Morita equivalence class of a Lie groupoid. In this talk we show how representations up to homotopy yield to Morita invariants of a Lie groupoid and hence of the associated stack. The talk is based on an ongoing project joint with Matias del Hoyo (UFF) and Fernando Studzinski (USP).