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Title: (Non-)classification of Cartan subalgebras.

Abstract: We will start with looking at some structural results for Cartan subalgebras in tensor products of  $\text{II}_1$  factors. We will use this to then construct examples of  $\text{II}_1$  factors with "a lot" of Cartans, namely for which the equivalence relations of Cartans up to unitary conjugacy or conjugacy by automorphisms are not classifiable by countable structures. We end with showing this property for unitary conjugacy of Cartans of any McDuff  $\text{II}_1$  factor.