



Oberseminar zur Algebra und Algebraischen Kombinatorik

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“Non-semisimple modular tensor categories from small quantum groups”

One of the main reasons to study modular tensor categories is their importance in the description of 2d conformal field theories (CFTs). More precisely, it is believed that the chiral part of a 2d CFT is encoded in the representation category of a vertex operator algebra (VOA). At least in the rational (i.e. finite and non-semisimple) case, this is known to be a modular tensor category.

In the talk, I first introduce a family of finite-dimensional quasi-triangular quasi-Hopf algebras, generalizing Lusztig's small quantum groups. By modularizing their representation categories, we obtain a large class of finite non-semisimple modular tensor categories. Conjecturally, these are equivalent to the representation categories of the underlying VOAs (known as W -algebras) of a certain family of logarithmic (i.e. non-semisimple) 2d CFTs (known as logarithmic extensions of minimal models). In the last part of the talk, I present an idea how to tackle this conjecture via Tannaka duality.

This is joint work with Azat Gainutdinov and Simon Lentner.

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ab 14:15 Uhr, a410

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Alle Interessierten sind herzlich eingeladen.

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