Probabilistic Operator Algebra Seminar

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Title: *Alpha-induction and bi-unitary connections.*

Suppose we have a sub factor $N \subset M$ with finite index such that the endomorphisms of N arising from the powers of the dual canonical endomorphisms have a braiding. Then these endomorphisms are functorially extended to endomorphisms of M using the braiding. This tensor functor is called alpha-induction. A finite dimensional commuting square is characterized with a bi-unitary connection which assigns a complex number to each square arising from four edges in the four Bratteli diagrams of the commuting square. It is known that bi-unitary connections give a fusion category equivalent to the one arising from endomorphisms. We work out the alpha-induction functor for bi-unitary connections. This covers the A-D-E Dynkin diagram cases studied by Ocneanu.