The Mathematics of Quantum Theory



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Do all subfactors admit attendant conformal field theories?

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A subfactor is functional analytic object with highly combinatorial structure theory. Subfactors arise in various ways in conformal field theory via monodromy of n-point functions or more simply via commutation of local observable algebras. Subfactor technology has undergone many advances recently with a classification program for subfactors of small index. We meet subfactors that are do not arise from any currently know conformal field theory but there seems to be no reason that such CFT's do not exist, indeed Evans and Gannon give some evidence that such CFT's do exist in the context of Vertex operator algebras. We will describe some of these "exotic" subfactors and suggest ways in which CFT's might be made out of them.

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