Twisted boundary conditions through fusion functors

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The Temperley-Lieb algebras are an infinite family of associative algebras often used to build Yang-Baxter integrable models on finite lattices; each representation of these algebras then corresponds, in some sense, to a specific choice of boundary conditions for some physical model. The fusion functors are a family of maps acting on these representations which can be used to deform them in some controlled way, and thus generate twisted boundary conditions for those models while preserving (part of) their physical interpretations.

I will explain how these functors can be interpreted physically, notably in terms of topological defects, and how they compare to previously introduced ways of obtaining these boundary conditions in the unitary RSOS models. I will also show some of the more exotic models which can be obtained by applying these constructions to non-unitary models, and will discuss how to obtain similar functors for more general families of lattice models.

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