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Tensor categories arising from the Virasoro algebra and quantum groups.

When studying conformal field theory in two dimensions, one naturally encounters primary fields and their operator product expansions. These can be interpreted as simple objects and tensor products in a tensor category.

Two well-known sources of tensor categories are quantum groups and vertex operator algebras (VOAs). While the module category of a quantum group is naturally a tensor category, establishing the tensor structure on the module category of a VOA is more subtle and relies on the Huang–Lepowsky–Zhang theory.

In this talk, I will try to clarify some aspects of the tensor structure of VOA modules, describe a tensor category arising from the Virasoro algebra at generic central charge, and compare it with the module category of a quantum group.