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Local observables as boundary values of vertex operator algebras

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Vertex operator algebras and conformal nets are mathematical axiomatizations of roughly the same physical idea: a two-dimensional chiral conformal field theory. I will present recent work in which local observables in conformal nets are realized as "boundary values" of vertex operators. More precisely, the usual vertex operators correspond to three punctured spheres with standard local coordinates at the punctures, but by changing the local coordinate one may obtain operators which are local in the sense of algebraic quantum field theory. This construction also exhibits a relationship between the representation theory of vertex operator algebras and that of conformal nets.

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