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Marcel Bischoff* (marcel.bischoff@vanderbilt.edu), Vanderbilt University, Department of Mathematics, 1326 Stevenson Center, Nashville, TN 37240. *Quantum Doubles and Conformal Field Theory*. Preliminary report.

Chiral conformal field theory can be axiomatized using von Neumann algebras, so-called conformal nets. In this setting subfactors arise naturally. On the other hand, finite index finite depth subfactors prescribe quantum symmetries in the sense that they generalize the fixed points by a finite group and it is an open question if all subfactors arise from conformal nets in some way.

We give a definition of what we mean by that a subfactor arises from a conformal net which is motivated by the study of boundaries and topological defects. We then show that a subfactor arises from a conformal net if and only if its quantum double is the representation theory of a conformal net. We give a characterization of conformal nets whose representation category is a quantum double and provide examples. (Received August 07, 2015)