

# QUANTUM SYMMETRIC PAIRS IN TOPOLOGICAL FIELD THEORY

TIM WEELINCK

Abstract: I will discuss new categorical invariants of framed orbifold surfaces constructed out of the categories of representations of a quantum symmetric pair. The construction is inspired by the work of Lurie, Ayala-Francis and Costello-Gwilliam on topological quantum field theories, and we will explain how to place quantum symmetric pairs in this context. We then discuss examples: the invariants of the orbifold annulus and the orbifold torus. These are respectively given by the category of representations of the twisted reflection equation algebra, and the category of quantum D-modules on the double quotient space  $K \backslash G / K$  of the symmetric pair  $(G, K)$ .