The relative Drinfeld commutant of a fusion category and α-induction

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Abstract

We establish a correspondence among simple objects of the relative commutant of a full fusion subcategory in a larger fusion category in the sense of Drinfeld, irreducible half-braidings of objects in the larger fusion category with respect to the fusion subcategory, and minimal central projections in the relative tube algebra. Based on this, we explicitly compute certain relative Drinfeld commutants of fusion categories arising from α-induction for braided subfactors. We present examples arising from chiral conformal field theory.