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Second indicators of the fusion category $\mathcal{C}(G, H)$ where G is a Coxeter group and H is a reflection subgroup of G

This is an ongoing joint project with Peter Schauenburg. In 2009, Guralnick and Montgomery showed that if G is a finite real reflection group, then $D(G)$ —the Drinfel'd double of G over an algebraically closed field k of characteristic not 2—is totally orthogonal. That is, all irreps of $D(G)$ have indicator $+1$. Using the notation of [Schauenburg 2016], we explore several cases where the second indicator of the simple objects of the group-theoretical fusion category $\mathcal{C}(G, H)$ are all nonnegative where G is a finite Coxeter group and H is a reflection subgroup of G .