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Stable perfect isometries between blocks of finite groups
(joint work with Robert Boltje)

Let $(\mathbb{K}, \mathcal{O}, F)$ be a p -modular system which is large enough for finite groups G and H . Let A be a p -block of the group algebra $\mathcal{O}G$, and B be a p -block of the group algebra $\mathcal{O}H$. In 1990, Broué introduced the notion of a perfect isometry between the p -blocks A and B which is a generalized \mathbb{K} -valued character leading to a special bijection between the sets of irreducible \mathbb{K} -characters of A and B . In this talk, we introduce and investigate the notion of stable perfect isometries—a way to consider *perfect isometries up to generalized projective characters* of the corresponding p -blocks. Our interest lies in understanding in which cases a stable perfect isometry can be lifted to a perfect isometry. We verify this surjectivity for algebras of abelian p -groups and certain cases of blocks with cyclic defect group as well as blocks with Klein four defect group. We will also introduce the definition of stable p -permutation equivalences and their relations to stable perfect isometries.