1151-20-277 **Robert Boltje*** (boltje@ucsc.edu). *On the Broué invariant of a p-permutation equivalence.*

In the 1980s Broué introduced the notion of a perfect isometry between two p-blocks of finite groups and conjectured that if a block B has abelian defect groups then there exists a perfect isometry between B and its Brauer correspondent. Roughly speaking, a perfect isometry between two arbitrary blocks A and B is a bijection with signs between the sets of their irreducible characters, having additional p-arithmetic properties. Broué showed that the ratio of codegrees of corresponding irreducible characters (including signs) is a unit in the p-localized integers and is constant when viewed as unit in the prime field with p elements. In general, this Broué invariant can take any value. We show that if a perfect isometry comes from a p-permutation equivalence then the value of its Broué invariant is explicitly determined by local data. As an application we obtain a theorem that links Broué's abelian defect group conjecture with a strong form of Alperin's weight conjecture. (Received August 20, 2019)