HECKE ALGEBRAS AND CLASS-GROUP INVARIANTS

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ABSTRACT. Let $G$ be a finite group. To a set of subgroups of order two we associate a mod 2 Hecke algebra and construct a homomorphism, $\psi$, from its units to the class-group of $\mathbb{Z}[G]$. We show that this homomorphism takes values in the subgroup, $D/\mathbb{Z}[G])$. Alternative constructions of Chinburg invariants arising from the Galois module structure of higher-dimensional algebraic $K$-groups of rings of algebraic integers often differ by elements in the image of $\psi$. As an application we show that two such constructions coincide.