ALGEBRA SEMINAR

Functorial equivalence classes of blocks of finite groups

By

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Abstract: Let k be an algebraically closed field of positive characteristic p > 0 and let F be an algebraically closed field of characteristic 0. In 2022, together with Bouc, we introduced the notion of functorial equivalence of blocks and proved the following finiteness theorem in the spirit of Puig's finiteness conjecture: Given a p-group D, there are only finitely many pairs (G, b) of a finite group G and a block b of kG with defect groups isomorphic to D, up to functorial equivalence over F. In this talk, we classify the functorial equivalence classes of blocks of finite and tame representation types. In particular, we prove that for all these blocks, the functorial equivalence classes depend only on the fusion system of the block. Some parts of this work are joint with Boltje and Bouc.

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