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Amenability properties for the centres of certain discrete group algebras

Let $\{G_i\}_{i\in I}$ be a family of finite groups, and let $G = \bigoplus_{i\in I}$ indicates the group generated by all $(x_i)_{i\in I}$ when x_i is the identity of the group G_i for all but finitely many i.

We characterize the amenability of $Z\ell^1(G)$, the center of the group algebra for G. Moreover, we study the characters on the commutative algebra $Z\ell^1(G)$, and consequently, the existence of the bounded approximate identity for the maximal ideals of $Z\ell^1(G)$ will be considered. We also study when an algebra character of $Z\ell^1(G)$ belongs to c_0 or ℓ^p.

Time permitting, we will mention some results about the amenability constant of the center of the group algebra for some particular finite groups.

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