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Amenability constants for semilattice algebras

For any finite unital commutative idempotent semigroup S, a unital *semilattice*, we show how to compute the amenability constant of its semigroup algebra $\ell^1(S)$, which is always of the form $4n + 1$. We then show that these give lower bounds to amenability constants of certain Banach algebras graded over semilattices. Our theory applies to certain natural subalgebras of Fourier–Stieltjes algebras.

This is joint work with Mahya Ghandehari and Hamed Hatami.