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On left φ-biflat Banach algebras

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Abstract: We study the notion of left φ-biflatness for Segal algebras and semigroup algebras. We show that the Segal algebra $S(G)$ is left φ-biflat if and only if G is amenable. Also we characterize left φ-biflatness of semigroup algebra $l^1(S)$ in terms of biflatness, when S is a Clifford semigroup.

Keywords: left φ-biflat; Segal algebra; semigroup algebra; locally compact group
AMS Subject Classification: 46M10, 43A07, 43A20

References

[1] Alaghmandan M., Nasr-Isfahani R., Nemati M., *Character amenability and contractibility of abstract Segal algebras*, Bull. Aust. Math. Soc. **82** (2010), no. 2, 274–281.
[2] Essmaili M., Rostami M., Amini M., *A characterization of biflatness of Segal algebras based on a character*, Glas. Mat. Ser. III **51(71)** (2016), no. 1, 45–58.
[3] Ghahramani F., Lau A. T. M., *Weak amenability of certain classes of Banach algebra without bounded approximate identities*, Math. Proc. Cambridge Philos. Soc. **133** (2002), no. 2, 357–371.
[4] Ghahramani F., Loy R. J., Willis G. A., *Amenability and weak amenability of second conjugate Banach algebras*, Proc. Amer. Math. Soc. **124** (1996), no. 5, 1489–1497.
[5] Hewitt E., Ross K. A., *Abstract Harmonic Analysis I: Structure of Topological Groups. Integration Theory, Group Representations*, Die Grundlehren der mathematischen Wissenschaften, 115, Academic Press, Springer, Berlin, 1963.
[6] Howie J. M., *Fundamental of Semigroup Theory*, London Mathematical Society Monographs, New Series, 12, Oxford Science Publications, The Clarendon Press, Oxford University Press, New York, 1995.
[7] Hu Z., Monfared M. S., Traynor T., *On character amenable Banach algebras*, Studia Math. **193** (2009), no. 1, 53–78.
[8] Javanshiri H., Nemati M., *Invariant φ-means for abstract Segal algebras related to locally compact groups*, Bull. Belg. Math. Soc. Simon Stevin **25** (2018), no. 5, 687–698.
[9] Kaniuth E., Lau A. T., Pym J., *On ϕ-amenability of Banach algebras*, Math. Proc. Cambridge Philos. Soc. **144** (2008), no. 1, 85–96.
[10] Ramsden P., *Biflatness of semigroup algebras*, Semigroup Forum **79** (2009), no. 3, 515–530.
[11] Reiter H., *L^1-algebras and Segal Algebras*, Lecture Notes in Mathematics, 231, Springer, Berlin, 1971.
[12] Runde V., *Lectures on Amenability*, Lecture Notes in Mathematics, 1774, Springer, Berlin, 2002.