

ALGEBRA-VALUED G-FRAMES IN HILBERT C^* -MODULES

MOHAMMAD B. ASADI AND Z. HASSANPOUR-YAKHDANI

Abstract. In this paper, we consider the notion of algebra-valued G-frame as a special case of G-frame in a Hilbert C^* -module. It is shown that every Hilbert module over a commutative C^* -algebra A admits an algebra-valued G-frame iff A is a C^* -algebra of compact operators.

Mathematics subject classification (2010): Primary 46L08, Secondary 42C15, 46L05.

Keywords and phrases: Hilbert C^* -modules, continuous field of Hilbert spaces, frames, G-frames.

REFERENCES

- [1] M. AMINI, M. B. ASADI, G. A. ELLIOTT, F. KHOSRAVI, *Frames in Hilbert C^* -modules and Morita equivalent C^* -algebras*, Glasgow Math. J. **59** (2017), 1–10.
- [2] J. DIXMIER, C^* -algebras, North-Holland Publishing Company, 1977.
- [3] M. FRANK, D. R. LARSON, *rames in Hilbert C^* -modules and C^* -algebras*, J. Operator Theory **48** (2000), 273–314.
- [4] C. HEUNEN, M. L. REYES, *Frobenius Structures Over Hilbert C^* -modules*, Commun. Math. Phys. **361** (2018), 787–824.
- [5] A. KHOSRAVI, B. KHOSRAVI, *Fusion Frames and G-Frames in Hilbert C^* -modules*, Int. J. Wavelet Mult. Info. Proc. **6** (3) (2008), 433–446.
- [6] H. LI, *A Hilbert C^* -module admitting no frames*, Bull. London Math. Soc. **4** (2010), 388–394.
- [7] R. G. SWAN, *Vector bundles and projective modules*, Trans. Amer. Math. Soc. **105** (1962), 264–277.
- [8] W. SUN, *G-frames and G-Riesz bases*, J. Math. Anal. Appl. **322** (2006), 437–452.