A CHARACTERIZATION OF HILBERT $C^*$–MODULES OVER FINITE DIMENSIONAL $C^*$–ALGEBRAS

LJILJANA ARAMBAŠIĆ, DAMIR BAKIĆ AND MOHAMMAD SAL MOSLEHIAN

Abstract. We show that the unit ball of a full Hilbert $C^*$-module is sequentially compact in a certain weak topology if and only if the underlying $C^*$-algebra is finite dimensional. This provides an answer to the question posed in J. Chmieliński et al [Perturbation of the Wigner equation in inner product $C^*$-modules, J. Math. Phys. 49 (2008), no. 3, 033519].


Keywords and phrases: Hilbert $C^*$-module, finite dimensional $C^*$-algebra, $C^*$-algebra of compact operators.

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