Elementary operators on Hilbert C^*-modules

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We extend the well-known notion of elementary operators on C^*-algebras to Hilbert C^*-modules. After providing some basic properties, we generalize Mathieu's theorem for elementary operators on C^*-algebras by showing that the completely bounded norm of any elementary operator on a non-zero Hilbert A-module agrees with the Haagerup norm of its corresponding tensor if and only if A is a prime C^*-algebra.

This is joint work with Ljiljana Arambašić (University of Zagreb).