

CB-NORM APPROXIMATION OF DERIVATIONS BY ELEMENTARY OPERATORS

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We often try to understand the structure of operators and spaces on which they act in terms of approximation by finite rank maps. On unital C^* -algebras A , however, it is natural to regard two-sided multiplication maps $x \mapsto axb$ ($a, b \in A$) as basic building blocks (instead of rank one operators). We can therefore try to approximate a more general map on A , one that preserves ideals, by finite sums of two-sided multiplication maps, that is, by *elementary operators*. In this talk I will consider the problem of description of those derivations of unital C^* -algebras that can be approximated by elementary operators in the completely bounded norm.

This is a joint work in progress with Richard Timoney (Trinity College Dublin).