

On some lifting problems in C^* -algebras

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For the standard epimorphism from a C^* -algebra A to its quotient A/I by a closed ideal I , one may ask whether an element b in A/I with some specific properties is the image of some element a in A with the same properties. This is known as a lifting problem that can be considered as a non-commutative analogue of extension problems for functions. I am going to discuss some lifting problems connected with the notion of projectivity and semiprojectivity for C^* -algebras, in particular the question about lifting of nilpotent contractions posed by Loring and Pedersen.