

ON THE ORTHOGONAL COMPLEMENTARITY OF CLOSED SUBMODULES OF HILBERT C^* -MODULES

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It is known that a closed submodule of a Hilbert C^* -module may fail to be orthogonally complemented. Due to this weakness, some new phenomena may happen compared with that in Hilbert spaces. In the framework of adjointable operators on Hilbert C^* -modules, I will report some recent progress on the generalized Douglas theorem, the generalized parallel sum, the generalized Halmos' two projections theorem. Some applications will also be presented.