

D-bar and Dirac Type Operators on Classical and Quantum Domains

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Abstract:

I study \bar{d} -bar and Dirac operators on classical and quantum domains subject to the APS boundary conditions, APS like boundary conditions, and other types of global boundary conditions. Moreover, the inverse or inverse modulo compact operators to these operators are computed. These inverses/parametrices are also shown to be bounded and are also shown to be compact, if possible. Also the index of some of the \bar{d} -bar operators are computed when it doesn't have trivial index. Finally a certain type of limit statement can be said between the classical and quantum \bar{d} -bar operators on specialized complex domains.

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