On the solvability of some equations in the algebra $B(H)$

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Abstract

In this work we study how certain problems in Quantum Theory have motivated some recent research in Operator Theory. The mathematical key is that of a generalized commutator, that is, to find and operator $X \in B(H)$ satisfying the operator equations $AX - XB = C$, $AXB - X = C$ and $AXB - XD = E$.