

Around the Fuglede theorem

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The famous Fuglede Theorem states that linear operator equations $AX + XB = 0$ and $A^*X + XB^* = 0$ are equivalent on the space of all bounded operators between Hilbert spaces, if A and B are bounded normal operators. There will be discussed various results on linear operator equations, multiplication operators, ideals in Banach algebras, spectral synthesis that are in some way related to this theorem.