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A note on the commutator of two operators on a locally convex space

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Abstract: Denote by C the commutator $AB - BA$ of two bounded operators A and B acting on a locally convex topological vector space. If $AC - CA = 0$, we show that C is a quasinilpotent operator and we prove that if $AC - CA$ is a compact operator, then C is a Riesz operator.

Keywords: locally convex space; commutator; nilpotent operator; compact operator; Riesz operator

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