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## The Constancy Problem of Projection Trace

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We say that a linear bounded operator  $A$  in a complex Hilbert Space is *translation-invariant* relatively the self-adjoint (in general – unbounded) operator  $B$  if  $A$  commutes with  $B$ . The main examples of translation-invariant operators are the operators with translation invariant kernel, investigated in the works of academician Petrina D.Ya. The *trace* of translation-invariant operators in the general case is *infinite*, but for these operators it can be introduced the concept of the *generalized projection trace*. This trace is a complex-valued function, which is a constant for the operators with translation invariant kernel.

In the present talk we will discuss the question, when the generalized projection trace of a translation invariant operator must be a constant in the abstract situation.