

# Linearization and factorization of singular operator functions

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Consider a function  $A(z)$  with values in the space of bounded operators on a Hilbert space, analytic and bounded in a simply connected domain  $D$  in the complex plane whose boundary is a smooth closed curve. We construct a linearizator of  $A(z)$  in an appropriate functional space. With its help we investigate inner linearization recently introduced by H. Langer, A. Markus, and the author (see [IEOT 63 (2009), 533-545]).

The distinction of the results in the talk is that they admit appearance of the spectrum of  $A(z)$  on the boundary of the domain  $D$  and possibly non-selfadjointness of  $A(z)$ .

The talk is based on joint results of H. Langer, A. Markus, and the author.