

# Estimates for Operator Functions

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## **Abstract**

In several branches of mathematics and mathematical physics estimates for operator functions are of high interest. On one hand, this is the case in quantum chemistry, in particular in the analysis of the Kohn Sham system. Here we present an elementary proof of the Birman/Solomyak theorem – which was an open problem for a long time.

The second item of the talk affects operator functions for second order divergence operators. We give an improved estimate for the angle of the sector which contains the numerical range and draw several consequences of this.