

## **Perturbation theory of differential operators**

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### **Abstract**

Suppose that  $M$  and  $S$  are differential operators and  $T$  is given by  $T = M - zS$ , where  $z$  is the spectral parameter. Here, we give the necessary and sufficient conditions for the deficiency indices and spectral properties of selfadjoint realisations of  $T$  and  $M$  to be equal on Hilbert spaces of square integrable functions.