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8. Analysis

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Strauss, Abraham, Ulyanovsk State Pedagogical University, Russia
Functional models of closed linear operators in Hilbert spaces
A functional model of a closed linear operator in a Hilbert space is the multiplication operator by the complex variable in a space $\mathfrak{A}$ of vector valued functions holomorphic on a domain $\Omega \subset \mathbf{C}$. For some symmetric completely nonselfadjoint operators such models were investigated by A. I. Plessner (1939), M. G. Krein (1949), L. de Branges and J. Rovnyak (1966), A. Strauss (1996). Functional models of linear operators without the condition of symmetry were considered by D. Alpay (1988), A. Strauss (1989). Especially, the following cases are studied: 1) $\mathfrak{A}$ contains no vector valued constant different from zero; 2) $\mathfrak{A}$ contains all vector valued constants.