

Historical comments

A sweeping discussion is provided by

<http://bigwww.epfl.ch/publications/meijering0201.pdf>: “Meijering02”.

Standard books are: Thiele09, KowalewskiA17, Norlund24, Fraser27, Steffensen27, Davis63,

Gantmacher59 (Vol.I, Ch.V (p.97ff)) defines the **Lagrange-Sylvester interpolation polynomial** $r = r_f$ for a given smooth f with respect to the spectrum of a given matrix A as the unique polynomial of degree $< m$ that, for all eigenvalues λ of A , matches f m_λ -fold at λ , with m_λ the multiplicity of λ as a zero of the minimal polynomial ψ_A for A and, correspondingly, $m := \sum_\lambda m_\lambda$. He also points out that, for a polynomial f , r_f is the remainder of the division of f by ψ_A . In fact, that is his point of departure. For he is interested in $f(A)$ and so finds r_f as the polynomial p of smallest degree for which $f(A) = p(A)$.

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