# Asymptotic properties of systems of orthogonal entire functions generated by Hermite positive and Hermite indefinite functions

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We discuss asymptotic relations in systems of orthogonal entire functions $\{e_t(\lambda)\}_{t=0}^{\infty}$ on the axis $-\infty < \lambda < \infty$ derived from the Gram-Schmidt orthogonalization of the exponents $\{e^{it\lambda}\}_{t=0}^{\infty}$ with the Gram-Schmidt matrices for $0 < t \leq r$ replaced by the Fredholm integral operators in $L^2(0,r)$ with generalized kernels

$$\delta(t-t') + H(t-t'), \quad 0 \leq t, t' \leq r,$$

where $\delta(t)$ is the Dirac delta function, and $H(t) = \overline{H(-t)}$ are continuous functions that admit the representation

$$H(t) = \int_{-\infty}^{\infty} e^{i\lambda t}\, d\Omega(\lambda)$$

with some bounded variation function $\Omega(\lambda)$.

The results can be used to create algorithms for addressing problems related to the continuation of Hermite-positive functions.