On truncated Wiener-Hopf operators and $BMO(\mathbb{Z})$

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Let $\Phi : (0,2) \to \mathbb{C}$ be a function and consider the operator $\Gamma_\Phi : L^2((0,1)) \to L^2((0,1))$ given by

$$\Gamma_\Phi(F)(x) = \int_0^1 \Phi(x+y)F(y)dy, \quad 0 < x < 1.$$

Surprisingly, there seems to be very few studies on it. It goes under names like "Truncated Wiener-Hopf operator" "Toeplitz operator on the Paley Wiener space" or "Truncated Hankel operator on $\mathbb{R}$". We consider norm estimates and show that it shares many properties with Hankel operators, in particular we provide a Nehari type norm characterization, as well as norm and compactness characterization in terms of the sequential BMO-space. Time allowing, we will discuss a number of conjectures and open problems relating to non-harmonic Fourier analysis and approximation of functions by sums of exponential functions.