Three bases and other tricks to replace Hankel and Toeplitz

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In many situations, the absence of availability of methods or facts from complex analysis can produce difficulties: we discuss deep generalisations of characterisation of boundedness of commutator of the Hilbert transform and symbol multiplication (Nehari theorem) via two-sided estimates in L^2. Herein, we focus on the choice of three basis systems and explain why each of them was chosen to accomplish a certain task. The systems are (in one and several parameters) the Meyer wavelet for "lower" estimates of commutators, the Haar wavelet for "upper" estimates and the Fourier system and the spherical harmonics again for "lower" estimates.