Basic relations valid for the Bernstein space B_σ^2 and their extensions to functions from larger spaces in terms of their distances from B_σ^2

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This is a trilogy of lectures dealing with theorems valid for bandlimited functions and their extensions to larger function spaces.

The first lecture introduces the theorems from several areas of analysis, both for functions belonging to a Bernstein space of bandlimited function, as well as for functions from spaces of non-bandlimited functions, to be treated in detail.

The second lecture presents a new, unified approach to the errors occurring when the results for bandlimited functions are extended to a function f from a larger space in terms of the distance of f from a suitable Bernstein space. The results also cover the difficult situation of derivative-free error estimates.

The third lecture applies this new approach to the theorems of the first lecture but also treats Hilbert transforms as a further new application of the distance approach.