News on interpolation with complex B-splines

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Cardinal B-splines of complex order or, for short, complex B-splines, are natural extensions of classical Curry-Schoenberg (polynomial) B-splines B_n, where the order $n \in \mathbb{N}$ is replaced by a complex number s. These complex B-splines inherit many of the important and interesting properties of the B_n. In this talk, we will concentrate on the interpolation property. Whereas for the fractional B-splines B_α, $\alpha > 1$, the interpolation property can be easily verified, this is not obvious for the complex case. In fact, this question is closely related to the growth conditions and the distribution of zeros of sums of Hurwitz zeta functions. In the talk, we give a positive answer to the question of interpolation with complex B-splines for a certain range of complex degrees. The complete characterization of the admissible degrees is still an open question.

This is joint work with Ramūnas Garunkštis (Vilnius University, Lithuania), Peter Massopust (Helmholtz Zentrum München) and Jörn Steuding (Würzburg University).