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Aula T2 (UB)

Approximation properties of sums of the form $\sum_k \lambda_k h(\lambda_k z)$ and their applications to numerical analysis

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ABSTRACT:

We consider a method to approximate functions f analytic in a neighbourhood of the origin by finite sums of the form $\sum_k \lambda_k h(\lambda_k z)$, where h is a chosen function analytic on the unit disk and the approximation is carried out by choosing the complex numbers $\lambda_k = \lambda_k(f)$. We show connections between this approximation tool and approximation by logarithmic derivatives of complex polynomials (the so-called simple partial fractions) and give some applications to numerical analysis.