Frobenius-Padé approximants for d-orthogonal series: theory and computational aspects

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Abstract

This work is about Frobenius-Padé approximants for series of orthogonal polynomials of dimension d ($d \in \mathbb{N}$). Concerning to the series, we give the projection property of partial sums, we show how to compute their coefficients, and how to get the coefficients of the product of a series by a polynomial. Concerning to the approximants we work essentially about their recursive computation. Also, we give several examples and numerical results.

Keywords: rational approximation, Frobenius-Padé approximants, series of orthogonal polynomials of dimension d

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