GENERALIZATION OF THE MULTIPLE ORTHOGONALITY TO THE BIVARIATE CASE

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Abstract

Polynomials known as Multiple Orthogonal Polynomials (MOPs) in a single variable are polynomials that satisfy orthogonality conditions concerning multiple measures and play significant role in several applications such as Hermite-Padé approximation, random matrix theory or integrable systems. However, this theory has only been studied in the univariate case. In this poster, some generalized definitions of the two main types of multiple orthogonality are given, together with some examples and extended results.

Keywords: Orthogonal Polynomials, Approximation Theory, Applications, Multiple orthogonality.
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