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# A triple product formula for plane partitions derived from biorthogonal polynomials

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## Abstract

A new triple product formulae for plane partitions with bounded size of parts is derived from a combinatorial interpretation of biorthogonal polynomials in terms of lattice paths. Biorthogonal polynomials which generalize the little  $q$ -Laguerre polynomials are introduced to derive a new triple product formula which recovers the classical generating function in a triple product by MacMahon and generalizes the trace-type generating functions in double products by Stanley and Gansner.

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