Mathematics > Classical Analysis and ODEs

On the Properties of Special Functions on the linear-type lattices

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(Submitted on 29 Jul 2011)

We present a general theory for studying the difference analogues of special functions of hypergeometric type on the linear-type lattices, i.e., the solutions of the second order linear difference equation of hypergeometric type on a special kind of lattices: the linear type lattices. In particular, using the integral representation of the solutions we obtain several difference-recurrence relations for such functions. Finally, applications to q-classical polynomials are given.

Subjects:	**Classical Analysis and ODEs (math.CA)**
MSC classes:	33D15, 33D45
Cite as:	**arXiv:1107.5898 [math.CA]**
	(or **arXiv:1107.5898v1 [math.CA]** for this version)

Submission history

From: Renato Alvarez-Nodarse [view email]
[v1] Fri, 29 Jul 2011 08:52:06 GMT (16kb)

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