

EXTRACT FROM OP-SF NET

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Subject: Computer Algebra & Orthogonal Polynomials

"CAOP - Computer Algebra & Orthogonal Polynomials" is a web tool for calculating formulas for orthogonal polynomials belonging to the Askey-Wilson scheme using Maple. With the present version which is available on the site <http://www.caop.org/>

users can compute recurrence, differential and difference equations, without having Maple installed on their own computer. It is also possible to multiply the polynomial family by a scaling function, to change the argument and to give values to the parameters before doing the calculations.

All computations in CAOP are performed by calling procedures either from hsum15 ("Hypergeometric Summation") or qsum15 ("q-Hypergeometric Summation") by Wolfram Koepf, University of Kassel, which are part of the book Hypergeometric Summation, Vieweg, Braunschweig/Wiesbaden, 1998.

The implementation of CAOP was originally done by René Swarttouw as part of the Askey-Wilson Scheme Project performed at RIACA in Eindhoven in 2004. The present site <http://www.caop.org/> is a completely revised version of this project which has been done by Torsten Sprenger under supervision of Wolfram Koepf in 2012 and is maintained by Wolfram Koepf at the University of Kassel.