

Index

- Abel orthogonal polynomials, 2
- Airy weight function, 8

- bimodal weight function, 33, 34
 - halfrange, 33, 34, 48, 49
- Binet weight function, 14
 - generalized, 15
 - halfrange, 46
 - halfrange generalized, 15, 47
 - halfrange squared, 47
 - halfrange squared generalized, 47
 - lower subrange, 46
 - lower symmetric subrange, 46
 - squared generalized, 15
 - upper subrange, 46
- Binet weight functions
 - halfrange squared generalized, 15
 - subrange, 14
- Binet-like weight function, 14
 - halfrange, 14, 45
- Bose–Einstein weight function, 29, 30
- Bose–Einstein-type weight function, 30, 31

- cardinal B-spline weight function
 - second-order, 50
- cardinal B-spline weight functions, 50
 - of various orders, 51
- Charlier polynomials, 5
- Chebyshev weight function
 - elliptic, 10
- coerror weight function, 7

- discretization, 31, 50
- discretization method
 - 1-component, 21–24
 - 2-component, 21, 22, 24, 25

- exponential integral weight function, 8
 - finite-range, 43, 44
- exponential integral weight functions
 - subrange, 8
- exponential weight function
 - four-parameter, 35, 36
 - exponential weight functions, 31

- Fermi–Dirac weight function, 29
- Fermi–Dirac-type weight function, 29
- Freud weight function, 27, 28
 - halfrange, 27, 44, 45
- Freud weight functions, 27

- Gaussian nodes, viii
- Gaussian quadrature formula, viii
- Gaussian weight function, 34, 35
- Gaussian weights, viii
- Gegenbauer polynomials
 - generalized, 4
- Gegenbauer weight function
 - multiplied by an exponential function, 11, 12

- Hahn polynomials
 - monic, 5
- hat function, 50
- Hermite polynomials
 - generalized, 2
 - subrange, 2
 - subrange generalized, 2
- Hermite weight function
 - generalized
 - halfrange, 38, 39
 - lower subrange, 40, 41
 - symmetric subrange, 39, 40
 - upper subrange, 41, 42
 - upper subrange, 43
- hyperexponential weight function
 - halfrange, 38, 49
 - symmetric, 38

- Jacobi polynomial, viii
 - generalized, 8, 9
- Jacobi polynomials, 1
 - subrange, 1
- Jacobi weight function
 - lower subrange, 50

- multiplied by a logarithmic function, 19, 20
 - symmetric subrange, 49
 - upper subrange, 50
- Kravchuk polynomials, 5
- Krylov–Pal'tsev weight function, 24, 25
- Laguerre polynomials
 - generalized, 1
- Laguerre weight function
 - generalized
 - multiplied by a logarithmically singular function, 26, 27
 - multiplied by a logarithmically singular function, 26, 27
 - symmetric, 37
- Legendre polynomials
 - associated, 4
- Lindelöf orthogonal polynomials, 3
- logarithmic weight function, 12
 - with quadratic argument, 13
 - with rational argument, 13
 - with rational square-root argument, 14
- logistic orthogonal polynomials, 3
- Maxwell weight function, 38, 39
- Meixner polynomials, 5
- Meixner–Pollaczek polynomials, 2
- midpoint weight function, 38
- modified Bessel weight function, 7
- modified moments, 27
- moments, 26, 31, 32, 50
- Morse weight function, 34
- orthogonal polynomials
 - classical, vii
 - nonclassical, vii
 - quasi-classical, vii
- Plana weight function, 37
- Pollaczek-type weight function, 36, 37
- radiative transfer weight function, 31, 32
- reciprocal gamma weight function, 7
- Rys weight function, 39, 40
- Schrödinger weight function, 32
- square Binet weight function, 14
- square-root-logarithmic weight function, 13
- squared Abel orthogonal polynomials, 3
 - modified, 3
- squared logarithmic weight function, 12
- Stieltjes–Wigert polynomials, 4
- subrange weight functions, 38
- Theodorus weight function, 31
- three-term recurrence relation
 - satisfied by orthogonal polynomials, vii
- weight function
 - algebraic, 10, 11
 - containing a monomial and
 - exponential/logarithmic factors, 21–23
 - containing an algebraic singularity and
 - exponential/logarithmic factors, 22–24
 - containing an exponential/logarithmic factor, 21
 - having an algebraic/logarithmic singularity, 15–18
 - having an algebraic/scaled-logarithmic singularity, 16–19
- weight functions
 - involving special functions, 7
 - nonclassical, 7
 - with algebraic singularities, 8
 - with algebraic/exponential/logarithmic factors, 21
 - with algebraic/logarithmic singularities, 15
 - with logarithmic singularities, 12
- weight functions
 - discrete, 5