API Collection

Integration functions

Compute the running sum, Simpson, or trapezoidal integration of a vector.

Topics

Integration

`static func integrate<U>(U, using: vDSP.IntegrationRule, stepSize: Double) -> [Double]`

Returns the integration of a double-precision vector using the specified rule.

`static func integrate<U>(U, using: vDSP.IntegrationRule, stepSize: Float) -> [Float]`

Returns the integration of a single-precision vector using the specified rule.

`static func integrate<U, V>(U, using: vDSP.IntegrationRule, stepSize: Double, result: inout V)`

Performs the integration of a double-precision using the specified rule.

`static func integrate<U, V>(U, using: vDSP.IntegrationRule, stepSize: Float, result: inout V)`

Performs the integration of a single-precision using the specified rule.

`enum IntegrationRule`

Integration rules.

Running Sum Integration

The functions in this group perform integration on the values in a vector.

`vDSP_vrsum`

Performs running sum integration over a single-precision vector.

`vDSP_vrsumD`

Performs running sum integration over a double-precision vector.

Simpson Integration

`vDSP_vsimps`

Performs Simpson integration over a single-precision vector.

`vDSP_vsimpsD`

Performs Simpson integration over a double-precision vector.

Trapezoidal Integration

`vDSP_vtrapz`

Performs trapezoidal integration over a single-precision vector.

`vDSP_vtrapzD`

Performs trapezoidal integration over a double-precision vector.

See Also

Single-vector arithmetic functions

- Absolute and negation functions

  Compute the absolute or negated value of each element in a vector.

- Clipping, limit, and threshold operations

  Apply clipping, limit, or threshold rules to the elements in a vector.

- Normalization functions

  Compute the mean and standard deviation of a vector and calculate new elements to have a zero mean and a unit standard deviation.

- Phase computation functions

  Calculate the element-wise phase values, in radians, of a complex vector.

- Complex conjugation functions

  Calculate the complex conjugate of the elements in a vector.

- Vector squaring functions

  Compute the square, signed square, or squared magnitude of the elements in a vector.

- Fractional part extraction

  Truncate the elements of a vector to a fraction.

- Zero crossing search

  Count and find the zero crossings in a vector.