Modified Spherical Bessel Differential Equation

The modified spherical Bessel differential equation is given by the spherical Bessel differential equation with a negative separation constant,

$$r^2 \frac{d^2 R}{d r^2} + 2 r \frac{d R}{d r} - \left[r^2 + n (n+1)\right] R = 0.$$

The solutions are called modified spherical Bessel functions of the first and second kinds.

SEE ALSO

Modified Spherical Bessel Function of the First Kind, Modified Spherical Bessel Function of the Second Kind, Spherical Bessel Differential Equation

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REFERENCES

Abramowitz, M. and Stegun, I. A. (Eds.). §10.2.1 in *Handbook of Mathematical Functions with Formulas, Graphs, and Mathematical Tables, 9th printing.* New York: Dover, pp. 374-377, 1972.

Zwillinger, D. *Handbook of Differential Equations, 3rd ed.* Boston, MA: Academic Press, p. 121, 1997.

REFERENCED ON WOLFRAM|ALPHA

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SUBJECT CLASSIFICATIONS

Calculus and Analysis › Differential Equations › Ordinary Differential Equations ›