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Expression of relativistic expectation values of powers of r in terms of Clebsch-Gordan coefficients*

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It is shown that, in the relativistic hydrogenic approximation, expectation values of the type $\langle nlj|r^k|nlj\rangle$ can be expressed in terms of Clebsch-Gordan coefficients or $3jm$ symbols. This generalizes the results obtained by Varshalovich and Karpova [Opt. Spectrosc. **118**, 1–5 (2015); Opt. Spektrosk. **118**, 3–7 (2015)] in the non-relativistic hydrogenic case.

Keywords: relativistic hydrogenic approximation, expectation values of powers of r , Clebsch-Gordan coefficients.

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