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An Implementation of Atomic Form Factor

Wednesday, 16 February 2022 13:00 (12 minutes)

The discrete-discrete atomic form factor is calculated for two non-equal masses of particles. The integral involving the product of Bessel functions and associated Laguerre polynomials is used to calculate the radial integral. An explicit analytical expression for the discrete-discrete transition form factor is presented exactly in the way they are implemented in the program. This atomic form factor for non-equal masses can be used in the decay rate calculation of exotic atoms, such as pionic hydrogen to muonic hydrogen.

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Please select: Experiment or Theory

Theory

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