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AtomicAndPhysicalConstants.jl –a package for managing physical constants atomic and subatomic data in Julia

Wednesday 4 June 2025 16:00 (2 hours)

AtomicAndPhysicalConstants.jl is a Julia package designed to provide atomic and physical constants including the speed of light, subatomic particle properties, atomic isotope properties, etc. Values are obtained from CODATA (Committee on Data of the International Science Council), NIST (National Institute of Standards and Technology), and PDG (Particle Data Group) datasets for physical constants, atomic and subatomic particles for scientific computations, particularly in fields such as particle and accelerator physics. Key features include a macro for users to access and customize units for constants, dynamic updates to integrate the latest scientific data, and compatibility with Julia's Unitful.jl library for convenient unit manipulation. These capabilities make the package ideal for applications requiring rigorous physical accuracy and reproducibility.

Footnotes

Paper preparation format

Region represented

America

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