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$^{14}\text{N}(\text{p},\gamma)^{15}\text{O}$ and the Age of the Galaxy¹

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The carbon-nitrogen (CN) cycle is the energy source of choice at some point in the life of every star and the power generated by the CN-cycle is determined by the rate of its slowest reaction, namely $^{14}\text{N}(\text{p},\gamma)^{15}\text{O}$. Recent experiments have shown that the rate of this reaction is about a factor of 2 less than previously thought for main-sequence and red-giant stars. The astrophysical implications of this are still being explored. However, one clear consequence is that the ages of globular clusters have to be revised upwards by about a billion years. This talk will focus on the connection between the $^{14}\text{N}(\text{p},\gamma)^{15}\text{O}$ reaction, globular clusters and the age of the galaxy.

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