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Some remarks about the β -delayed α -decay of ^{16}N LOTHAR BUCHMANN, G. RUPRECHT, TRIUMF, C.A. BARNES, Kellog Caltech, C. RUIZ, TRIUMF — The β -delayed α -decay of ^{16}N has been used to restrict the E1 fraction of the ground state in the key $^{12}\text{C}(\alpha,\gamma)^{16}\text{O}$ reaction. A review of the measurements is given and new R-Matrix and GEANT calculations are presented to further elucidate the observed α spectra. A clear response tail from scattering of α -particles in the catcher foil is observed in these simulations for thick foils. The simulations show that the TRIUMF measurement and those performed at Yale originate from the same underlying spectrum. The R -matrix calculations reveal, in addition, that the $S_{E1}(300)$ is relatively insensitive to details of the spectrum. It is concluded that the TRIUMF measurement represents most likely the closest approximation to the natural β -delayed α -decay spectrum of ^{16}N .

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