

$^{12}\text{C}(^{22}\text{Ne},^{18}\text{N})$ 1998Og04,1999Og03

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	R. Spitzer, J. H. Kelley		ENSDF	30-Jun-2021

[1998Co37](#): ^{18}N ions, produced by fragmenting a ^{22}Ne beam on a ^{12}C target, were selected using the LISE3 spectrometer and implanted into a 40 K cooled Mg crystal oriented along $\beta=1.5^\circ$. Using the Level Mixing Resonance method to interpret the variation asymmetry of β radiation with field strength 0-2000 Gauss indicated a the value $eQ=3.2 \text{ e-fm}^2$ 3.

[1998Og04,1998OgZY](#).: ^{18}N ions were produced at RIKEN by fragmenting a 110 MeV/nucleon ^{22}Ne beam on a ^{12}C target and selecting ^{18}N using the RIPS fragment separator. Optimum settings indicated 2.2% polarization at $\theta=3.5^\circ$ ^{18}N emission angle. The beam was implanted into a Pt stopper foil that was held at 30 K. Using standard β -NMR techniques, $\mu=0.3279 \mu_N$ 17 was determined. A similar scan using a single crystal Mg stopper resulted in a determination of the quadrupole coupling constant $eQ/h=73.2 \text{ kHz}$ 18. A preliminary value $Q=12.1 \text{ mb}$ 12 was determined by comparison with $Q(^{12}\text{N})$ and related field gradients. See also ([2000AsZZ](#)).

[1999Og03,1999OgZV](#): In an expansion of results presented in ([1998Og04](#)), further experimental details are given. The decay rate was determined from analysis of the β -ray time spectrum. $T_{1/2}=620 \text{ ms}$ 14 was obtained. In this work, the field gradients determined for ^{12}N and ^{14}N and their Q values were considered resulting in $Q=12.3 \text{ mb}$ 12. Results are compared with perviously reported values and shell model predictions.

 ^{18}N Levels

E(level)	J^π	$T_{1/2}$	Comments
0	1^-	620 ms 14	$\mu=0.3279$ 13 (1998Og04) $Q=12.3$ 12 (1999Og03) J^π : From Adopted Levels. $T_{1/2}$: From (1999Og03).