

$^{181}\text{Ta}(^{40}\text{Ar},^{19}\text{B})$ **1986Po13,2003Oz01**

Type	Author	History	Citation	Literature Cutoff Date
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1986Po13: A search for extremely neutron-rich nuclei at the neutron drip line was carried out via projectile fragmentation of 44 MeV/nucleon ^{40}Ar impinged on a 166 mg/cm² thick ^{181}Ta target at GANIL. The fragments were collected using LISE spectrometer at 0° and identified with ΔE -E, time-of-flight information. Two settings of the spectrometer, $B_{\rho}=3.10$ and 3.20 Tm, were used to search for ^{22}C and ^{19}B isotopes with running times ≈ 30 hours. The previous observation of ^{19}B is confirmed. See also (1988GuZT).

1998Yo06,2003Yo02: Beta-decay properties of ^{19}B , ^{22}C and ^{23}N nuclei were studied using projectile fragments from 95 MeV/nucleon ^{40}Ar ions impinged on a ^{nat}Ta target (≈ 670 mg/cm²) at RIKEN. The reaction fragments were collected and analyzed through RIPS at the maximum solid angle $\Delta\Omega=5$ msr with $\Delta p/p=6\%$ and were identified based on the ΔE -time-of-flight information. The half-life of ^{19}B was measured as $T_{1/2}=3.3$ ms 2 (1998Yo06) and 2.91 ms 13 (2003Yo02). The β -delayed neutron emission probability $P_n=1\times P_{1n}+2\times P_{2n}+\dots=(125\ 32)\%$ (1998Yo06) and $P_{1n}=(71.8\ +83-91)\%$, $P_{2n}=(16.0\ +56-48)\%$, $P_{3n}<9.1\%$ (2003Yo02) were deduced.

2003Oz01: Beams of $E(^{40}\text{Ar})=94$ MeV/nucleon ions bombarded either a Be target (471 mg/cm²) or a Ta target (686 mg/cm²) at RIKEN/RIPS. The fragments were collected with $\Delta p/p=6\%$ and $\Delta\Omega=5$ msr. Reaction products were identified based on ΔE , time-of-flight and magnetic rigidity (B_{ρ}). A production cross section of ^{19}B $\sigma_F=1.59\times 10^{-9}$ b 48 on a Ta target was measured.

 ^{19}B Levels

<u>E(level)</u>	<u>$T_{1/2}^{\dagger}$</u>
0	2.91 ms 13

\dagger From (2003Yo02).