## $^{9}$Be($^{26}$F,2n$^{22}$O) 2011Ho05

History

| Type | Author | Citation | Literature Cutoff Date |
|---|---|---|---|
| Full Evaluation | M. S. Basunia[#], A. Chakraborty[##] | NDS 171, 1 (2021) | 1-Jun-2020 |

Based on XUNDL: Compiled by M. Birch and B. Singh (McMaster); August 6, 2011.

Be target (thickness 470 mg/cm$^2$); $^{26}$F beam, E=85 MeV/nucleon, produced at the Coupled Cyclotron Facility at NSCL. Used Modular Neutron Array (MoNA) to measure E(n), $^{22}$O(n-n) coincidence and identified $^{22}$O recoil fragments by energy loss and time-of-flight (TOF). Deduced a two-neutron cascade from a resonant state in $^{24}$O decaying to $^{23}$O and finally to $^{22}$O g.s.

### $^{23}$O Levels

| E(level) | J$^{\pi}$[†] | Γ | L | Comments |
|---|---|---|---|---|
| 0.0 | 1/2$^+$ | | | |
| 2.8×10$^3$ | (5/2)$^+$ | 100 keV | 2 | E(level): from observed neutron-neutron sequential emission of $^{22}$O fragment -nn coin; first neutron with E(n)≈0.6 MeV from a level at ≈7.5 MeV in $^{24}$O, the second with E(n)<0.1 MeV from a 2.8 MeV level in $^{23}$O, the latter considered as 45 keV *2* resonance in $^{23}$O (2011Ho05).<br>L,Γ: assumed value for Breit-Wigner line shape to describe two resonances for simulating the sequential decay of E=600−keV resonance in $^{24}$O through this state using Monte Carlo simulations.<br>Decays by neutron to $^{22}$O g.s. |

[†] From Adopted Levels.