

$^{238}\text{U}(^{26}\text{Mg},5\text{n})$ 2008Ga08

| Type | Author | History | Citation | Literature Cutoff Date |
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Additional information 1.

^{259}Rf produced in $^{238}\text{U}(^{26}\text{Mg}^{6+},5\text{n})$ reaction at E=4.9-6.0 MeV/nucleon; $^{238}\text{UF}_4$ rotating target at 88-Inch cyclotron facility at LBNL and with Berkeley gas-filled recoil separator (BGS) of the LBNL. Evaporation residues recoiling from the target were separated by the BGS from the beam and other reaction products on the basis of magnetic rigidities in He gas. Measured (evaporation residues) α and (evaporation residues) $\alpha\alpha$ correlations, α decay, SF decay, half-life, excitation functions.

 ^{259}Rf Levels

| E(level) | Comments |
|----------|--|
| 0 | <p>$\%_{\varepsilon} + \%_{\beta^+} = 15.4$ (2008Ga08)</p> <p>E(level): The ε decay mode is not observed in other studies when ^{259}Rf (presumably the g.s.) is populated in the α decay of ^{263}Sg. This is explained (2008Ga08) by the possible existence of an isomer in ^{259}Rf when directly formed in a reaction. This isomer apparently decays with T=2.5 s +4-3, directly or through other states.</p> <p>Additional information 2.</p> <p>$\%_{\varepsilon} + \%_{\beta^+}$ branch determined from three EVR-α correlated events and five EVR-SF correlated events as listed in table III of 2008Ga08.</p> <p>Measured cross sections: 0.44 nb +30-19 at 133.0 MeV, 1.6 nb +5-4 at 138.5 MeV, 0.38 nb +36-20 at 144.5 MeV, 0.19 nb +24-12 at 151.4 MeV.</p> <p>45 EVR-SF correlation events were observed at beam energies from 133.0 to 151.4 MeV. Three α like events correlated with EVR were assigned as ^{259}Rf ε decay to ^{259}Lr followed by α decay to ^{255}Md. These events are listed in table III of 2008Ga08. Average $E_{\alpha} = 8.4$ MeV for decay of ^{259}Lr to the g.s. of ^{255}Md.</p> |