

${}^3\text{He}({}^{20}\text{Ne}, {}^{20}\text{Mg})$ 2012Wa15

<u>Type</u>	<u>Author</u>	<u>Citation</u>	<u>Literature Cutoff Date</u>
Full Evaluation	J. H. Kelley, G. C. Sheu	ENSDF	20-June-2019

The authors measured protons from ${}^{20}\text{Mg}$ β -delayed proton decay with the aim of adding understanding to the known ${}^{20}\text{Na}^*(2647)$ resonance and its participation in the astrophysically important ${}^{19}\text{Ne}(p,\gamma)$ reaction.

A beam of ${}^{20}\text{Mg}$ ions, produced by ${}^3\text{He}({}^{20}\text{Ne}, {}^{20}\text{Mg})$ reactions at the Texas A&M MARS facility, was implanted at the mid-thickness of a 45 μm segmented Si strip detector (24 \times 24 strips). The detector was sandwiched between two thicker Si detectors. Events within the strip detector were rejected if either of the thicker detectors was correlated in time. Hence the array was sensitive to the low-energy light particles from decay in the strip detector.

The emphasis of the measurement was a search for evidence of ${}^{20}\text{Na}^*(2647)$ decay to ${}^{19}\text{Ne}_{\text{g.s.}}$ with $E_p=434$ keV, as a result the full dataset is not analyzed.

 ${}^{20}\text{Mg}$ LevelsE(level)

0