

## <sup>21</sup>B

The discovery of <sup>21</sup>B was reported in the 2018 paper “First Observation of <sup>20</sup>B and <sup>21</sup>B” by Leblond et al. (2018Le18). A 345 MeV/nucleon <sup>48</sup>Ca beam from the Radioactive Isotope Beam Factory (RIBF) of the RIKEN Nishina Center irradiated a 20 mm thick beryllium target to produce secondary beams of <sup>22</sup>N and <sup>22</sup>C which were separated with the BigRIPS fragment separator. These isotopes impinged on a secondary 1.8 g/cm<sup>2</sup> carbon target located at the SAMURAI spectrometer. Unbound resonant states were then reconstructed from fragments detected behind the SAMURAI superconducting dipole magnet and neutrons measured in the NEBULA neutron array. “In the case of proton removal from <sup>22</sup>C, the <sup>19</sup>B plus one- and two-neutron channels were consistent with the population of a resonance in <sup>21</sup>B 2.47 ± 0.19 MeV above the two-neutron decay threshold, which is found to exhibit direct two-neutron decay.”

The instability of <sup>21</sup>B had been demonstrated in 2003 by Ozawa et al.(2003Oz01).

Adapted from reference (2019Th02)

- 2003Oz01 A. Ozawa, Y. Yamaguchi, M. Chiba, R. Kanungo *et al.*, Phys. Rev. C **67**, 014610 (2003).  
2018Le18 S. Leblond, F. M. Marques, J. Gibelin, N. A. Orr *et al.*, Phys. Rev. Lett. **121**, 262502 (2018).  
2019Th02 M. Thoennessen, Int. J. Mod. Phys. E **28**, 1930002 (2019).

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