

³⁷Na

In the 2002 article “New neutron-rich isotopes, ³⁴Ne, ³⁷Na and ⁴³Si, produced by fragmentation of a 64A MeV ⁴⁸Ca beam” Notani et al. described the first observation of ³⁷Na ([2002No11](#)). The RIKEN ring cyclotron accelerated a ⁴⁸Ca beam to 64 MeV/nucleon which was then fragmented on a tantalum target. The projectile fragments were analyzed with the RIPS spectrometer. “[Part (a) of the figure] shows a two-dimensional plot of A/Z versus Z, obtained from the data accumulated with the ⁴⁰Mg Bρ setting, while [part (b)] is for the ⁴³Si setting. The integrated beam intensities for the two settings are 6.9×10^{16} and 1.7×10^{15} particles, respectively. The numbers of events observed for three new isotopes, ³⁴Ne, ³⁷Na and ⁴³Si, were 2, 3 and 4, respectively.” Lukyanov et al. reported the discovery of ³⁷Na independently less than two months later ([2002Lu09](#)).

Adapted from reference ([2012Th10](#))

- [2002Lu09](#) S. M. Lukyanov, Yu. E. Penionzhkevich, R. Astabatyán, S. Lobastov *et al.*, J. Phys. G **28**, L41 (2002).
- [2002No11](#) M. Notani, H. Sakurai, N. Aoi, Y. Yanagisawa *et al.*, Phys. Lett. B **542**, 49 (2002).
- [2012Th10](#) M. Thoennessen, At. Data Nucl. Data Tables **98**, 933 (2012).

Please cite this abstract as: “FRIB Nuclear Data Group, *Discovery of Nuclides Project*, Isotope Database, doi:[10.11578/frib/2279152](https://doi.org/10.11578/frib/2279152)”