^{20}Ne

The credit for the discovery of ^{20}Ne should be given to F. W. Aston from the University of Cambridge for the paper "A new elementary constituent of the atmosphere" presented at the 1913 meeting of British Association for the Advancement of Science (1913AsZZ). Aston partially separated the isotopes using fractional diffusion and determined its density: "...evidence has now been obtained that atmospheric neon is not homogeneous, but consists of a mixture of two elements of approximate atomic weights, 19.9 and 22.1 respectively... The two elements appear to be identical in all their properties except atomic weight."

The first indications that there might be two separate isotopes for a given element was presented by J.J. Thomson in 1913 (1913Th02, 1913Th01). However, Thomson at the time did not make the connection to the isotope concept which was being developed by Soddy around the same time. He did not readily accept the isotopes concept and as late as 1921 argued that the heavier neon could (although not probable) be due to a hydride (H_2Ne) (1921Th02). Thus, it is justified to credit Aston with the discovery of the two neon (^{20}Ne and ^{22}Ne) isotopes (2003Hu19, 1985BrZT, 2012Kr12). The present assignment was changed (2016Th03) from the initial compilation (2012Th01).

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