

³⁴S

In the 1926 article “The isotopes of sulphur” Aston reported the discovery of ³⁴S (1926As01). The discovery was possible due to an improved resolving power of the new Cavendish mass spectrograph. Previously, Aston was not able to identify sulfur isotopes other than ³²S due to possible hydrogen compounds (1920As02). “The matter has now been put beyond reasonable doubt by the negative mass-spectrum obtained by using pure SO₂ and exposing for an hour with both fields reversed. All three lines were visible, and again showed the same intensity relations. Sulphur is therefore a triple element like the two even ones, magnesium and silicon, which precede it in the periodic table. The lightest mass-number is for the most abundant in all three cases. S³⁴ appears to be about three times as abundant as S³³; the two together probably amount to about 3 per cent. of the whole.”

Adapted from reference (2012Th10)

1920As02 F. W. Aston, Nature **105**, 547 (1920).

1926As01 F. W. Aston, Nature **117**, 893 (1926).

2012Th10 M. Thoennessen, At. Data Nucl. Data Tables **98**, 933 (2012).

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