

Atomic Weight of Krypton.

WHILE measuring the dielectric coefficient of a particularly pure sample of krypton, it occurred to me that a density determination would be of interest in view of Aston's recent statement that the accepted value of the atomic weight appeared from his measurements on the relative quantities of the isotopes to be much too low.

I made a comparison of the densities of krypton and oxygen by means of the microbalance and found that at 25° the pressures at which the two gases had equal densities were 301.15 mm. and 787.8 mm. If the compressibility corrections were proportional for the two gases, the atomic weight of krypton would be 83.71, while using the most probable value for the compressibility of krypton which I calculated in 1910, the figure reduces to 83.62.

While these results must not be considered final, it appears highly probable that Aston's figure 83.77 is more accurate than the accepted 82.9.

H. E. WATSON.

Indian Institute of Science,
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