

DISCUSSIONS

The experimental results in determination of sodium and potassium by both methods are nearly equal. It may be concluded that both methods are applicable. In the determination of aluminium, the first method (plotting graph) is more accurate, but the second takes shorter time. It is obvious that the percentage of phosphorus in table 3.13 is higher than in table 3.16. This means that there is Si^{28} in beans.

There are two general types of experimental errors. They are due to analytical procedures and nuclear phenomena. The analytical sources of error include the introduction of contaminants during sample preparation and inaccuracy of weighing. The sources of error in nuclear phenomena include self-shielding for thermal neutron in the samples, flux gradient during irradiation and interference from fast neutron reaction.

Self-shielding effects can be a serious source of error when the matrix constituents have appreciable cross-section. As a general rule, low atomic number elements cause little interference due to their low cross-sections, while heavier elements have opposite effects.

However, activation analysis is more convenient and sensitive than other methods of quantitative analysis.

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