

Atomic-number correction Z

This correction is concerned with the efficiency with which an element generates characteristic X-rays and it depends on two factors,

1. how far electrons penetrate the specimen before they lose too much energy to excite further x-rays.
2. how many electrons are backscattered without exciting any x-ray.

Both depend on the mean atomic number of the specimen

For analysis of a heavy element in a light element matrix $Z > 1$
and for a light element in a heavy element matrix $Z < 1$.

Fluorescence correction F

For the specimen containing several elements, the emission of characteristic X-rays of a given element **i** can be excited by other x-rays, when the energy of the latter exceeds the critical excitation energy of the element **i**. A fluorescence correction is therefore required for the element **i**.