Application of primary plasma standardization to Nd-yang laser-induced shock wave plasma spectrometry for quantitative analysis Of alloys

Maria Margaretha Suliyanti, author

Abstrak

A study was performed on a laser-induced shock wave plasma generated on high concentration Au-Ag-Cu alloys by a Q-switched Nd-YAG laser of 4.8 mJ under reduced air pressure of 2 Torr. It was found that the total emission intensity of the secondary plasma is proportional to the intensity of the primary plasma, Assuming linear proportionality between the intensity of the primary plasma and the number of atoms vaporized from the target, it is proposed that the quantitative analysis can be applied to the intensities of the analytical emission Iines normalized by the total intensity of the primary plasma. This experimental result demonstrated for each metal element shows an excellent linear relationship between the normalized emission line intensity and the content of corresponding element after primary plasma normalization.