On the Unusual Fluorescence X-Ray Intensity Variation in Some Aluminium and Magnesium Alloys

On the Unusual Fluorescence X-Ray Intensity Variation in Some Aluminium and Magnesium Alloys*

Kichinosuke HIROKAWA and Akira SAITÔ

The Research Institute for Iron, Steel and Other Metals

Abstract

The unusual fluorescence X-ray intensity variation in some aluminiun and magnesium alloys was investigated. It was confirmed that the phenomenon occurred when the primary crystals having differences in mass absorption coefficients for the fluorescence X-ray of the elements to be analyzed precipitate on both sides of the eutectic point. A simple model of an eutectic alloy was employed for the calculation. The phenomenon should be considered in the fluorescence X-ray analysis of alloys such as silicon in silmine, aluminium in alnico and others.

* The **1407th** report of the Research Institute for Iron, Steel and Other Metals. Published in the Zeitschrift für analytische Chemie, **237** (1968), 419.