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

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Abstract

The unusual fluorescence X-ray intensity variation in some aluminium 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.

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