

Abstract Submitted
for the MAR07 Meeting of
The American Physical Society

Influence of chemical potential on mutual diffusion coefficient of binary alloys¹ GBOYEGA ADEBAYO, Dept. of Physics, Univ. of Agriculture, Abeokuta, Nigeria, BEDE C. ANUSIONWU, Dept. of Physics, Federal Univ. of Technology, Owerri, Nigeria, BAMIDELE I. ADETUNJI, Dept. of Physics, Univ. of Agriculture, Abeokuta, Nigeria — We conduct a series of investigations using the Complex Formation Model (CFM) and relying on statistical theory to analyse the mixing behaviour of binary alloys when complexes are formed. A general equation for the mutual diffusion coefficients in binary alloys was derived. The chemical potential dependence of the transport coefficients of binary alloys has been interpreted by assuming the complex formed is strongly dependent on interatomic interaction of the constituent species.

¹Two of us, GAA and BCA acknowledge financial supports and hospitalities from ICTP and SIDA under the Associate Scheme Programme of the ICTP.

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Date submitted: 06 Dec 2006

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