In situ melting of nanoembedded metals and alloys: problems and prospects

K.Chattopadhyay

Department of Metallurgy, Indian Institute of Science, Bangalore 560 012

It is about two decades when we first carried out in situ melting experiment to obtain surface energy anisotropy of lead embedded in aluminium. In recent time considerable progress has been made in this direction both experimentally and theoretically. Recently we have started synthesizing alloy nanosized particles embedded in aluminium matrix and carried out preliminary in situ experiments. The analysis of the results in the case of alloy is more complex and calls for additional abilities for determining compositions at local scale reliably. We shall present some of our recent results on two phase embedded particle which will highlight the current situation.