

STRUCTURE DETERMINATION OF METALLIC GLASSES WITH SIMS

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Abstract

During the examination of metallic glasses with static Secondary Ion Mass Spectrometry (SIMS) polyatomic ions are emitted. Chemical and structural arrangements in the glasses can be deduced from these particles. Above all, it can be shown that for tempered (crystalline) glasses the same polyatomic ions occur with static SIMS. The pair distribution function was used to evaluate the X-ray diffraction spectra of the metallic glasses. The crystal structures of the tempered metallic glasses were determined from the X-ray diffraction data.