

Structural Study of an Amorphous Pd_₈₀-Si_₂₀ Alloy by X-Ray Fourier Analysis

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Valence Band X-Ray Photoemission Spectrum of Amorphous Tellurium

Toshihiro ICHIKAWA

J. Phys. Soc. Japan, **36** (1974), 1213.

X-ray photoemission spectrum of amorphous Te prepared by low temperature condensation and that of trigonal Te were measured, and differences between the two spectra were investigated. The differences were discussed in connection with the structure of amorphous Te.

The Assembly of Hard Spheres as a Structure Model of Amorphous Iron

T. ICHIKAWA

Phys. Stat. Sol. a, **29** (1975), 239.

Six assemblies of equal sized hard spheres have been constructed in a manner which is a modification of Bennett's global method, and packing fractions, $W(r)$ and $I_m(s)$ of the assemblies have been calculated. Some of the $W(r)$ and $I_m(s)$ have subpeaks or shoulders on the outer side of the second peaks, which are characteristic of many amorphous transition metals and their alloys. A geometrical origin of the occurrence of the subpeak or shoulder in $W(r)$ is briefly discussed.

X-Ray Photoemission Spectrum of Amorphous Antimony Prepared by Low Temperature Condensation

Toshihiro ICHIKAWA

Japan. J. Appl. Phys., **14** (1975), 885.

An X-ray photoemission spectrum of amorphous Sb prepared by low temperature condensation was measured and compared with that of amorphous Sb prepared by an intense argon ion bombardment. Differences between the two spectra suggest that the structures of the two amorphous Sb are considerably different.

Structural Study of an Amorphous $\text{Pd}_{80}\text{-Si}_{20}$ Alloy by X-Ray Fourier Analysis

Y. WASEDA and T. MASUMOTO

Phys. Stat. Sol. a, **31** (1975), 477.

The structure of an amorphous $\text{Pd}_{80}\text{-Si}_{20}$ alloy obtained by rapid quenching from the liquid state has been studied by X-ray diffraction. After calculating the interference function by means of the Fourier analysis, the atomic radial distribution function is obtained from which interatomic distance and coordination number are estimated. Comparing the result with that in the liquid state it is found that the general feature of the structure in the amorphous state is quite similar to that in the liquid state. Besides, the sample aged at 180°C for 300 min is examined by the same procedures.

An X-Ray Diffraction Study of the Structure of Amorphous $\text{Cu}_{57}\text{-Zr}_{43}$ Alloy

Y. WASEDA and T. MASUMOTO

Z. Physik, **B21** (1975), 235.