Valence Band X-Ray Photoemission Spectrum of Amorphous Tellurium
Toshihiro Ichikawa
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
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 characteris-
tic 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
An X-ray photoemission spectrum of amorphous Sb prepared by low tempera-
ture condensation was measured and compared with that of amorphous Sb prepared
by an intense argon ion bombardment. Differences between the two spectra sug-
gest that the structures of the two amorphous Sb are considerably different.

Structural Study of an Amorphous Pd\(_{80}\)-Si\(_{20}\) Alloy by X-Ray Fourier
Analysis
Y. Waseda and T. Masumoto
The structure of an amorphous Pd\(_{80}\)-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 Cu\(_{57}\)-Zr\(_{43}\) Alloy
Y. Waseda and T. Masumoto
Z. Physik, B21 (1975), 235.