

An Investigation of the Structure of Amorphous Co-P Alloys.

2: EXAFS at the Phosphorous K-edge, a Feasibility Study

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Amorphous $\text{Co}_{100-x}\text{P}_x$ foils in the concentration range $13.4 \leq x \leq 26$ were produced by electrodeposition. The extended X-ray absorption fine structure (EXAFS) at the phosphorous K-edge was measured in transmission mode. The phase shift was determined from the EXAFS spectrum of a crystalline Co_2P reference sample. The EXAFS spectra of the amorphous Co-P alloys are characterized mainly by one single contribution from a shell of Co-atoms at a distance of 2.3Å around the P-atoms. A small additional contribution at a shorter distance of 2.0Å may be a hint on some direct P-P neighbours. The evaluation of reliable coordination numbers from the EXAFS spectra of the amorphous alloys is not possible.

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