

Hyperfine Interactions of ^{57}Fe Nuclei in the Study of Interdiffusion Phenomena and Phase Formation*

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The effects of interdiffusion phenomena and reactions occurring in the early stages of the interaction at 1273 K between iron and chromium monoborides were studied by transmission Mössbauer and X-ray diffraction techniques, and modifications occurring in Fe/Al multilayers during both deposition and subsequent thermal aging at 400 K in vacuum or air were studied by conversion electron Mössbauer and Auger electron depth profiling techniques. In both cases the main objective of the work was to obtain a better understanding of the mechanisms of modification of the materials under examination with a view towards improving the properties of materials and coatings for specific applications.

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