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Changes in the composition, structure, and properties in samples of manganese steels under extreme impacts

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The paper contains a literature review and some experiments illustrating changes in the composition, structure, and properties of manganese alloys due to hierarchically consistent transformations in a system of excited atoms under extreme conditions. It is proposed to consider changes in the system of excited atoms at various scale levels, including nuclear transformations.

Keywords: manganese steels, 20GL steel, Fe86Mn13C steel, plastic deformation, impact loading, high-current pulse-periodic effects, synergetics, nuclear transformations.

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