9.7 cm

THE INFLUENCE OF MECHANICAL ALLOYING ON THE PHYSICAL PROPERTIES OF NANOSTOICHIOMETRIC U-Fe COMPOUNDS

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It has been investigated the influence of mechanical milling on physical properties of UFe_x intermetallic compounds. The samples were prepared by a crucible- less, semi levitation, induction melting and then milled for appropriate time in a conventional horizontal ball mill. X-ray diffraction, differential scanning calorimetry and measurements of magnetization by vibrating sample magnetometer were performed to study of physical properties after milling. The X-ray patterns and DSC have indicated that the mechanical alloying (MA) results in a formation of an amorphous iron reach U-Fe phase. The observed values of T_C increase abruptly during the initial 65 h MA and then more slowly up to 207 K when the milling period rises up to 230 h.

13.4 cm

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