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Study of the structural evolution of Ni50%atAl50%at mixture during mechanical alloying

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Abstract : In this study elemental powder of 50 %at Ni and50 %at Al mixture was mechanically alloyed in planetary ballmill Retsch PM400, for a predetermining time until 48h. Using Xraydiffraction and scanning electron microscopy (SEM) it wasobserved that milling of powder leads to the formation of NiAlphase. By the investigation of results from different techniquemicrostructural and morphology of the powder was investigatedover time of milling.

Keywords : NiAl alloy, X-ray diffraction, SEM, laser granulometry