The 4th International Conference on Welding, Non Destructive Testing and Materials and Alloys Industry (IC-WNDT-MI'14)

**2014**

# The effect of time of ball milling on the morphology of the powders based Iron and Chromium

**S.TRIAA, L.FAGHIet F.KALI-ALIi, M. Azzaz**

**Abstract :** This work is to examine the conditions of milling on the alloys based on iron and chromium in powders prepared by ball milling and their structural properties. A first step was the preparation of alloys based on the Fe-Cr vacuum in jars after studying beforehand optical microscope and the scanning electron microscope morphology of the powders our constituents pure alloy.The characterization of alloys has been developed on : The dispersion and morphology powder after different milling time, and then we studied the distribution and size of powders by electron microscopy and image processing.We were able to highlight the influence of some milling parameters on the morphology, size and distribution of various powders constituting our alloys based on Fe-Cr.

**Keywords :** nanostructures, Mechanical Alloying, Fe-Cr powder, XRD and SEM