Abstract: FeCrNiMnAl is a new type of high entropy alloy that was developed and obtained after intense research. High entropy alloys are made and researched since 1995 when Chinese researcher Yeh proposed for the first time this type of alloy.
The new type of alloy is designed to replace traditional alloys because of their execelent properties. High entropy alloys are used in various fields: electronics, auto parts manufacturing, marine industry, manufacturing of technological equipment, molds. The advantages of these high entropy alloys are the excellent mechanical properties.
In terms of economic the high entropy alloys represents a disadvantage because of the high cost of obtaining them. The purpose of this research is the obtaining and analyzing mechanical properties of high entropy alloy FeCrNiMnAl. As a method of obtaining this alloy we use the induction melt method.
The microstructure of the high entropy alloys FeNiCrMnAl was performed using a scanning electron microscopy (SEM). Hardness tests were made using a micro/Vickers hardness tester. In this paper it is investigated the microstructure and the mechanical properties of high entropy alloys FeNiCrMnAl.