

## ABSTRACT

The work contains: p. - 77, fig. – 32, tab. – 9, ref. - 40.

The purpose of scientific research paper is to study the influence of alloying elements in the system Ti-Si-Al on thermodynamic parameters.

Research methods:

1. Microanalysis (Selmi REM 106 I, Janafod 2000 (K.Zeiss Jena));
2. X-ray analysis (Rigaku "Ultima IV");
3. Analysis of the chemical composition (NPP "Institute for Analytical methods of control" Expert 3L).

The object of research is the structure and chemical composition of samples of the Ti-Si-Al alloy with different amounts of alloying element and impurities.

It was researched the influence of bath alloying and impurity elements on the eutectic line position under the same technological conditions at all stages of treatment.

The main influence on the degree of eutectic system Ti-Si-Al detects the alloying with Al. Additional doping of impurity and alloying elements shifts eutectic line towards increase of Si content.

**Keywords:** STRUCTURE, VACUUM-ARC SMELTING, EUTECTIC, ALLOYING, Ti-Si-Al.