

This paper presents results of experimental examinations of alloys from the ternary Ge-Sn-In and Ge-Sn-Zn systems. Differential thermal analysis, scanning electron microscopy with energy dispersive spectroscopy and x-ray diffraction were used for the experimental investigation of the prepared samples. Obtained experimental results were compared with the thermodynamically extrapolated phase diagrams of the Ge-Sn-In and Ge-Sn-Zn ternary systems based on the thermodynamic parameters for the constitutive binary systems. A good agreement is seen, which suggests that it is not necessary to introduce new thermodynamic parameters for the ternary Ge-Sn-In and Ge-Sn-Zn systems. By using the proposed thermodynamic dataset, a liquidus projection and invariant reactions have been predicted for both investigated ternary systems.