Thermophysical Properties of Titanium Aluminides - the European IMPRESS Project

I. Egry[C,S]
German Aerospace Center, Cologne, Germany
Ivan.Egry@dlr.de

R. Brooks
National Physical Laboratory, Teddington, Middlesex, England

E. Ricci
IENI-CNR, Genova, Italy

R. Wunderlich
Werkstoffe der Elektrotechnik, Ulm University, Ulm, Germany

Seetharaman
Department of Metallurgy, KTH, Stockholm, Sweden

In the framework of its 6th Framework Programme, the European Union funds the Integrated Project IMPRESS, which is related to the industrial applications of Ti-Al and Ni-Al alloys. One central task of this project is the precise determination of the relevant thermophysical properties of the selected alloys, Ti-45.5 Al-8 Nb and Ni-68 Al (at %), in both the solid and the liquid phase. The properties to be measured comprise of caloric data such as heat of fusion, specific heat, thermal conductivity, as well as thermophysical and transport properties such as density, surface tension, and viscosity. In addition to conventional high-temperature equipment, containerless methods are also used, and some measurements are performed under microgravity conditions. This presentation introduces the organizational structure of the IMPRESS project, and discusses the results obtained so far.