

Thermophysical Property Measurement of Levitated Molten Ni-Based Superalloys

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Density, surface tension and viscosity of several commercial Ni-based superalloys have been measured for a range of liquid temperature. A set of tests has been conducted using a ground-based Electrostatic Levitation (ESL) system in vacuum environment. Melt evaporation has been carefully considered to track any mass and compositional shifts during testing using computational thermodynamics. This study focuses on various analysis method of the experimental data to measure the accuracy and precision of the measured properties which also have been compared to available literature data from various other facilities.