INTERDISCIPLINARY CENTRE FOR
ADVANCED MATERIALS SIMULATION

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ICAMS Seminar room UHW 11/1102

Thermodynamic modelling of the Pt-Al-Cr-Ni alloy system

Platinum base alloys with room temperature ductility and creep, oxidation and corrosion resistance have been developed for high temperature applications. A thermodynamic model of the Pt-Al-Cr-Ni system will be presented with special focus on the Pt-rich side. The Cr-Pt binary system has been reassessed with the CALPHAD method, based on experimental data and first principles calculations. The four ternary alloy systems will be discussed based on available experimental data. A four sublattice model has been applied to describe the ordering reactions between the high temperature fcc phase and the low temperature L12 and L10 phases.