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Thermodynamic modelling of the U-Pu-Am-O system

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The thermodynamic modelling of the U-Pu-Am-O system is proposed by using the CALPHAD method. The aim is to provide basic thermodynamic data (melting temperature, heat capacity $\cdots$) on the (U,Pu,Am)O2 mixed oxide fuel to be used as input data in Fuel Performance Codes. In 2011, a CALPHAD model was developed in the TAF-ID database. An update of some of the binary and ternary sub-systems is proposed on the basis of a review of available recent experimental and/or theoretical thermodynamic and phase diagram data. The calculated results with the updated model will be compared to the experimental data.

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