

Thermodynamic Data for Modeling of LTE Plasmas

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Domain : Plasma

The Modeling of LTE Plasmas plays an increasing role for the understanding of the plasma behavior and its properties. The thermochemical analysis and modeling is a basis for a continuous improvement of the plasma performance. Physical and chemical properties are strongly related to the overall energy balance. One aim of the modeling is to gain a detailed knowledge about radiation emission and energy loss mechanisms. Here the interaction of the plasma with the surrounding atmosphere and materials is a major topic. Complex chemical reactions such as corrosion and transport properties between the components need to be studied in order to realize stable performance. The contribution will focus on the determination of key thermodynamic data that are the basis for the description of particle densities in a plasma and also gives an overview of modeling software and techniques. As example the plasma in discharge light sources will be highlighted.