Fundamentals of Selection, Synthesis and Design of thermal Separation Processes

GVT-Hochschulkurse cms

Fundamentals of Selection, Synthesis and Design of Thermal Separation Processes

Programm und Anmeldeformular

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Senior Lecturers: Prof. Dr. J. Gmehling, Prof. h.c. Dr. J. Rarey

Contents and aims of the course

A sound knowledge of process engineering fundamentals becomes increasingly important due to the broader application of process simulation software for the development (synthesis), design and optimization of chemical processes. Within this course participants from industry and academia should become familiar with the possibilities and limitations of currently used methods and models. The course will focus on those aspects, which we consider to be of primary importance for the successful modeling of single separation units or whole chemical plants.

Besides the thermodynamic properties of pure components, especially the behavior of multicomponent mixtures will be covered with special attention to phase equilibria, also those of electrolyte systems. Following a detailed discussion of the basics of thermodynamics, various approaches to process engineering problems using modern thermodynamic methods will be presented. These include for example the selection of suitable entrainers for special separation processes like azeotropic and extractive distillation, extraction as well as hybrid or pressure swing processes and a discussion of reactive distillation.

Participants should gain an improved understanding of the various graphical representations of the real behavior of mixtures such as plots on solvent-free basis, contour lines, residual curves incl. boundary lines or surfaces, azotropic points, ...). Practical tutorials are included to deepen the understanding of the various topics. The course will be held in English.

Following the first 3 days an optional fourth day offers a workshop on thermophysical properties including data retrieval, examination and evaluation, regression and estimation as well as parameter verification for use in process simulation. On the last day, the number of participants is limited to 10 due to the limited number of computers in the training room. As software, mainly the Dortmund Data Bank (DDB) together with the integrated software package are used.

zur Übersicht

Numerische Berechnung turbulenter Strömungen in Forschung und Praxis

Für weitere Informationen und Rückfragen kontaktieren Sie bitte

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