

Chemistry and Mathematics: Two Scientific Languages of the 21st Century
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The book concerns the special symposium on the subject given above, organized by Leopoldina on 11–13. October 2001 and published two years later. The contents of this book are:

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From the above 8 contributions only 4: Delgado-Friedrichs, Deuflhard, Warnatz and Wolfrum can be treated as connected with „Chemistry and Mathematics” The other four contributions oscillate between an „Ideographic Language” and “Poetic Suggestion” – thus, they are rather beyond mathematics in the common sense.

In “Virtual Crystallography” a review of a new discipline, based on a mathematical theory is given, concerning crystals, networks and related space structures.

In the article of Deuflhard the relation between chemistry and mathematics is studied, whereby some examples from chemical kinetics, polymer chemistry and medical chemistry are discussed.

Warnatz treats the computer simulation in complex reacting systems on examples of oxidation of hydrocarbons, whereby both the reaction steps and the accompanying macroscopic balance equations are taken into account, including turbulence.

Wolfrum discusses in his contribution the possibility of a more detailed treatment of combustion processes by a combination of elementary kinetic steps with the macroscopic transport phenomena. This could lead to an improvement of the control of the processes involved.

Summing up – the book discussed contains valuable results and suggestions for the interaction between mathematics and chemistry and has in some parts interesting philosophical aspects of the two scientific languages treated.

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