

Provisional Recommendations

Quantities, Units and Symbols in Physical Chemistry, Third Edition

The purpose of this manual is to improve the exchange of scientific information among the readers in different disciplines and across different nations. As the volume of scientific literature expands, each discipline has a tendency to retreat into its own jargon. This book attempts to provide a readable compilation of widely used terms and symbols from many sources together with brief understandable definitions. This third edition reflects the experience of the contributors with the previous editions and we are grateful for the many thoughtful comments we have received. Most of the material in this book is "standard," but a few definitions and symbols are not universally accepted. In such cases, we have attempted to list acceptable alternatives.

The book has been systematically brought up to date and new sections have been added. As in previous editions, the first chapter describes the use of quantity calculus for handling physical quantities and the general rules for the symbolism of quantities and units and includes an expanded description on the use of roman and italic fonts in scientific printing. The second chapter lists the symbols for quantities in a wide range of topics used in physical chemistry. New parts of this chapter include a section on surface structure. The third chapter describes the use of the International System of units (SI) and of a few other systems such as atomic units. Chapter 4 outlines mathematical symbols and their use in print. Chapter 5 presents the 1998 revision of the fundamental physical constants, and Chapter 6 the properties of elementary particles, elements and nuclides. Conversion of units follows in Chapter 7, together with the equations of electricity and magnetism in their various forms. Chapter 8 is entirely new and outlines the treatment of uncertainty in physical measurements. Chapter 9 lists abbreviations and acronyms. Chapter 10 provides the references, and Chapter 11, the Greek alphabet. Chapter 12 ends with the indexes.

Comments by 31 March 2006

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 www.iupac.org/reports/provisional/abstract05/stohner_310306.html

Glossary of Terms Used in Photochemistry

The first edition of the *Glossary of Terms Used in Photochemistry* ("Glossary") prepared for publication in the Commission of Photochemistry of the IUPAC Division of Organic Chemistry by S. E. Braslavsky and K. N. Houk was published in 1988 [*Pure Appl. Chem.* **60**, 1055-1106 (1988)] and has been incorporated in the *Handbook of Organic Photochemistry* and in *Photochromism: Molecules and Systems*.

The second edition of the "Glossary" prepared by Jan Verhoeven and published in 1996 [*Pure Appl. Chem.* **68**, 2223-2286 (1996)] corrected some minor mistakes in the first one and was expanded especially to incorporate terms related to (photoinduced) electron transfer processes. Major photochemistry and photobiology journals have since adopted the "Glossary" as a guideline.

This third edition incorporates revisions and enhances the "Glossary" introducing terms related to molecular anisotropy, the use of polarized ultraviolet, visible, or infrared radiation, and nonlinear optical techniques, as well as the emerging field of computation of excited species. Some changes have been introduced in this "Glossary" regarding the terms related to radiation energy to make this collection fully compatible with internationally agreed upon terms.

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