

Editorial remarks

The New Manual of Seismological Observatory Practice is published in two volumes. Volume 1 comprises the 13 topical Chapters while Volume 2 contains annexes. Annexed to most of the Chapters are complementary Datasheets (DS), Exercises (EX), Information Sheets (IS) and Program Descriptions (PD). Each Chapter or annexed piece of information is individually page-numbered, thus it can be replaced or complemented on its own without restructuring and/or renumbering the whole Manual.

Each Chapter has sub-chapters that are broken down into sections and sub-sections, e.g., Chapter 5, sub-chapter 5.1, section 5.1.2 and sub-section 5.1.2.3 so that the first number always relates unambiguously to the Chapter to which the referred text belongs. The same applies to figures, tables and equations in Volume 1 (for examples see below).

The Datasheets, Exercises, Information Sheets, Program Descriptions and Miscellaneous in Volume 2 are collected in separate sub-folders (registers), which are named accordingly. Usually, these annexes correspond with the Chapter numbers to which they refer and to the sequence number, e.g., DS 3.1 is the first Data Sheet belonging to Chapter 3 whereas EX 5.4 is the Exercise number 4 related to Chapter 5. However, the annexes collected under Miscellaneous are not numbered and relate to the Manual as a whole.

The name(s) of the author(s) and co-author(s) are given below the title of each chapter and their full addresses are contained in the list of authors. Several chapters are the collaborative work of all the named authors, making it difficult to single-out individual contributions. The name of the main contributor and/or chapter coordinator is always first. Questions or comments by users should be addressed to the first author with a copy to the Editor. Some co-authors have contributed specific sub-chapters or sections; in those cases their name(s) is (are) given in the list of contents immediately following the title of the respective sub-chapter/section. Questions or comments may then be addressed directly to them, with copies for information to the Editor and main author of the chapter. The same applies to all annexes given in Volume 2.

The Manual contains many cross-references to figures, tables and equations contained **in both volumes**. In an effort to make these references short and unambiguous and to assure that they are easily found we have adopted the following format and nomenclature:

- the shaded head-lines on each even-numbered (left-side) page in Volume 1 repeats the Chapter number and title of the Chapter, and on each odd-numbered (right-side) page the respective number and title of the sub-chapter dealt with on the given page;
- the shaded head-lines on each page in the Annex Volume 2 give both the full name of the sub-folder (e.g., Datasheet, Exercise, Information Sheet or Program Description) as well as its acronym (DS, EX, IS or PD) followed by the related Chapter number and the sequence number, e.g., IS 2.1 or PD 5.3;
- when referring to any sub-division of any Chapter of Volume 1 we only give its respective number, e.g., see 4.2, or see 11.2.3.4;
- when referring to any Annex in Volume 2 we refer to its acronym and number, e.g., see DS 11.2, or see EX 3.2;
- equations, figures and tables are numbered separately within each Chapter or Annex; equation numbers are always given in brackets;
- equation numbers in Volume 1 give the Chapter number first, followed by the sequence number of the equation within the given Chapter, e.g., (5.7) or (3.83),

whereas equations in Volume 2 are given only a sequence number within the given document, e.g. (6);

- the same applies to figure and table numbers in Volume 1 and 2, respectively, with the exception that these numbers are not put in brackets; accordingly
- references to figures, tables or equations in Volume 1 are made as follows: e.g., see Fig. 5.3, or see Tab. 3.1, or see Eq. (9.25);
- references to figures, tables or equations in Volume 2 are made as follows: e.g., see Figure 4 in DS 11.2, or see Table 1 in EX 3.2, or see Equation (12) in IS 3.1.

We have tried to use American English as consistently as possible, however some modifications may occur and hopefully be tolerated. Experts from many nations have contributed both to the Manual drafts and the review process, thus different opinions about correct style, grammar and punctuation have been unavoidable. For example, there are pros and cons for writing either “Earth”, or “earth” depending on whether it refers to the whole planet or only parts. We decided on “Earth”, as used in the old Manual and in the program announcement for the IUGG 2003; accordingly, we speak of Earth models, Earth tides, etc. We have avoided using the term ‘Earth’ when specifically referring to the Earth’s crust, mantle, or core. No consensus could be reached between American, Australian and English reviewers as to when to use the apostrophe (e.g., as in Earth’s Interior) and when not (as now common in Earth models or Earth systems). Therefore, we have tried to avoid its use. Despite all efforts, and taking into account that the majority of authors including the Editor do not have English as their mother tongue, typos, misnomers and occasional clumsy phrasing may still be found. Some references to figures, equations, tables, publications or sub-sections may still be missing or incorrect; the Editor will be grateful for any suggestions and/or corrections.

Please note that a IASPEI Working Group on Phase Names has recently proposed a comprehensive list, which contains both additional and partially changed old phase names. This list is reproduced in Volume 2, IS 2.1 and has been officially approved by IASPEI and published in Seism. Res. Letters (2003, Vol. 74, No. 6). As far as possible we have applied the new phase names, e.g., Pdif instead of Pdiff and PKPdf instead of PKIKP. However, some of the figures have been reproduced from other sources or have been printed by programs for seismogram analysis, which still used the old terminology. Therefore, there are some inconsistencies in the Manual with respect to phase names. This notwithstanding, users of the Manual are encouraged, when exchanging data and/or reporting them to international data centers, to use only the new IASPEI phases names as given in IS 2.1.

With respect to magnitude symbols we have followed the preliminary recommendations by the current IASPEI WG on Magnitude determination, which are given in IS 3.2. In this context please note that we have generally used the symbol D for the epicentral distance instead of Δ , which is more common in older literature. However, in the magnitude formulas and tables with magnitude calibration values we have kept Δ as originally given.

In the NMSOP we consistently use physical units according to the International System (SI units). Only occasionally reference is made to equivalent American units.

The Manual is complemented in the sub-folder **Miscellaneous** of Volume 2 by an extended list of **Acronyms**, a **Glossary** of terms, a detailed **Index** and **References**. A more specific glossary of technical terms related to data acquisition systems is attached to Chapter 6. There is only one summary list of References for the whole Manual. Common acronyms in the Manual refer to institutions, organizations or programs that have their own web site; in those

cases we have added the web addresses in the list of acronyms. It is expected that the Manual will also be utilized by beginners, high-school students, teachers, disaster managers and others who are not sufficiently familiar with seismological terminology. At a later stage we plan to integrate some modules into a larger package of “electronic learning” for a broader public. Therefore, the glossary to this Manual includes terms that are common knowledge to seismologists but require a simple explanation for lay users.

A CD-ROM with the Manuals pdf-files is attached to Volume 2 of the printed version. This will allow a flexible and “mobile” use of the Manual even under field conditions. In addition this CD-ROM contains animations of seismic ray propagation through the Earth and the formation of seismic recordings at different epicentral distances from very local up to 167°. An introduction to the use of these animations is given in IS 11.3.

All information contained in the Manual will be made freely available. However, educators and others, using original figures or other data in their lectures, public talks or scientific presentations should acknowledge the source by quoting:

Author(s), NMSOP (2002, Editor: P. Bormann).

Reproduction of any material from the Manual in printed or electronic publications requires copyright permission. The copyright for the NMSOP, its hard copy or updated pdf-versions on the internet, rests with IASPEI. The Editor, P. Bormann, acts as the IASPEI agent. Therefore, copyright requests should be addressed to the Editor (E-mail: pb65@gmx.net). For figures derived from other sources the appropriate copyright holders are given with the figures.

Generally, for figures or tables reproduced or modified from the Manual the following acknowledgement is required for assuring credit to the proper source:

- a) for figures from Volume 1: ...(figure (redrawn) (modified) from Author(s), Fig. No. in NMSOP, Vol. 1, Bormann (Ed.), 2002; © IASPEI);
- b) for figures from Volume 2: ...(figure (redrawn) (modified) from Author(s), DS No., or EX No., or IS No. in NMSOP, Vol. 2, Bormann (Ed.), 2002, © IASPEI).

General references in publication texts should be either to the Editor when reference is made to the NMSOP as a whole or to the author(s) of the respective Manual chapter or section (the latter only if specified in the list of contents) and the year, e.g., Musson (2002), or Trnkoczy et al. (2002). In the list of references the full information has to be given as follows:

Author(s) (2002). Chapter/Section (or DS/EX/IS/PD) No.: Title. In: Bormann, P. (Ed.) (2002). IASPEI New Manual of Seismological Observatory Practice, GeoForschungsZentrum Potsdam, Vol. 1 (or Vol. 2), number of pages.

Since all chapters in Vol. 1 or annexed information items in Vol. 2 are individually page-numbered, only the total number of pages can usually be given. However, in the case of individual contributions of authors to a specific section of a Manual chapter, the respective page numbers within the chapter should be given, e.g.:

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Wielandt, E. (2002). Chapter 5: Seismic sensors and their calibration. In: Bormann, P. (Ed.) (2002). IASPEI New Manual of Seismological Observatory Practice, GeoForschungsZentrum Potsdam, Vol. 1, 46 pp.

Holcomb (2002). Section 7.4.5: Broadband seismic installations in boreholes. In: Bormann, P. (Ed.) 2002. IASPEI New Manual of Seismological Observatory Practice, GeoForschungsZentrum Potsdam, Vol. 1, Chapter 7, 75-85.

Storchak, D. M., Bormann, P., and Schweitzer, J. (2002). IS 2.1: Standard nomenclature of seismic phases. In: Bormann, P. (Ed.) (2002). IASPEI New Manual of Seismological Observatory Practice, GeoForschungsZentrum Potsdam, Vol. 2, 18 pp.

The gradually corrected, updated and complemented pdf-version of the NMSOP is made available on the website of the GeoForschungsZentrum Potsdam (<http://www.gfz-potsdam.de>) via the link “Library”, “Publications” and “NMSOP”

Peter Bormann

Potsdam, October 2007