

## Notes for authors 2012

## 1. Scientific scope

*Section A* of *Acta Crystallographica* publishes articles reporting *fundamental advances* in all areas of crystallography in the broadest sense. This includes metacrystals such as photonic or phononic crystals, *i.e.* structures on the meso- or macroscale that can be studied with crystallographic methods.

The central themes are, on the one hand, experimental and theoretical studies of the properties and arrangements of atoms, ions and molecules in condensed matter, periodic, quasiperiodic or amorphous, ideal or real, and, on the other, the theoretical and experimental aspects of the various methods to determine these properties and arrangements. In the case of metacrystals, the focus is on the methods for their creation and on the structure–property relationships for their interaction with classical waves.

In contrast, *Section B* deals with the structures of individual compounds and families of compounds, and the relationship of structure to chemical and physical properties, *Section C* publishes crystal structure determinations, *Sections D* and *F* are devoted to molecules of biological interest and *Section E* is a rapid communication journal for the publication of concise reports on crystal structures. A more complete definition of scientific scope is given in an Editorial [*Acta Cryst.* (1994), **A50**, 1].

## 2. Categories of contributions

Contributions should conform to the general editorial style of the journal. Typical articles may be viewed by going to [http://journals.iucr.org/a/sample\\_issue.html](http://journals.iucr.org/a/sample_issue.html).

### 2.1. Research Papers

Full-length *Research Papers* should not normally exceed 15 journal pages (about 15 000 words).

### 2.2. Short Communications

*Short Communications* are intended for the presentation of topics of limited scope, or for preliminary announcements of novel research findings. They are not intended for interim reports of work in progress, and must report results that are of scientific value in their own right.

*Short Communications* should not normally exceed two journal pages (about 1500 words).

### 2.3. Lead Articles

*Lead Articles* are authoritative, comprehensive and forward-looking reviews of major areas of research interest. They are always **commissioned by the Section Editor**, on the advice of the Editorial Board. Suggestions for suitable topics and of potential author(s) are welcomed by the Section Editor for discussion with the Board.

The Section Editor will discuss the treatment of the topic, the length of the *Article* and the delivery date of the manuscript with invited author(s). *Lead Articles* will be refereed in the normal way; they will be made open access on publication.

### 2.4. Feature Articles

A *Feature Article* is a focused survey covering recent advances in an area of current research. It should not aim to be comprehensive, but a brief introduction should provide historical perspective and a brief conclusion should indicate likely future directions. Inclusion of new results is appropriate.

*Feature Articles* will generally be about ten journal pages (10 000 words). Shorter articles on rapidly evolving areas are also actively encouraged. They will be **commissioned by the Section Editor**, either personally **or following a formal proposal by prospective author(s)**. *Feature Articles* will be refereed in the normal way; they will be made open access on publication.

### 2.5. Letters to the Editor

These may deal with non-technical aspects of crystallography, its role, its propagation, the proper function of its Societies *etc.*, or may make a technical observation or scientific comment that would usefully be brought to a wider audience. Letters should be submitted to the **Section Editor** or to the **Editor-in-chief** of IUCr Journals.

### 2.6. New Commercial Products

Announcements of new commercial products are published free of charge. The descriptions, up to 300 words or the equivalent if a figure is included, should give the manufacturer's full address.

### 2.7. Obituaries

These will be **commissioned by the Section Editor**.

### 2.8. Meeting Reports

These are normally invited. Prospective authors interested in writing such items should first contact the Section Editor.

## 3. Submission and handling of manuscripts

### 3.1. Submission

Full details of the submission procedure can be found at <http://journals.iucr.org/a/services/submitbdy.html>. If the article reports a crystal structure, a CIF should be supplied (<http://journals.iucr.org/a/services/cifinfo.html>). Full instructions for submitting an article and details of the files required are given at <http://journals.iucr.org/a/services/submitinstructions.html>. Authors are encouraged to use the templates available from <http://journals.iucr.org/a/services/helpsubmit.html>. Articles will be checked for plagiarism using the CrossRef service.

In the case of Addenda or Errata to published articles, the article should be submitted to the Co-editor of the original article.

### 3.2. Languages of publication

*Acta Crystallographica Section A* will publish articles in English, French, German and Russian.

### 3.3. Quality of writing

Articles should be clearly written and grammatically correct. If the Co-editor concludes that language problems would place an undue burden on the referees, the manuscript may be returned to the authors without review. Details of language-editing services can be found at <http://journals.iucr.org/services/languageservices.html>.

### 3.4. Handling of manuscripts

All contributions will be seen by referees (normally two) before they can be accepted for publication. The editor to whom the manuscript is assigned is responsible for choosing referees and for accepting or rejecting the article. This responsibility includes decisions on the final form of the article and interpretation of these Notes when necessary.

If changes to a manuscript requested by the Section Editor, Co-editor or the editorial staff are not received within **two months** of transmittal to the author, the submission will be considered as withdrawn. Should the manuscript require further revision, this would normally be expected to be completed within one month of the revision having been requested. If a manuscript is not acceptable after two revisions it will not be considered further. Any subsequent communication of the material will be treated as a new submission in the editorial process. An article that has been rejected must not be resubmitted to any IUCr journal unless the reasons given for the rejection have been fully addressed in the revised version.

For accepted articles, it is the responsibility of the Managing Editor to prepare the article for publication. This may involve correspondence with the authors and/or the responsible editor in order to resolve ambiguities or to obtain satisfactory figures or tables. The date of acceptance that will appear on the published article is the date on which the Managing Editor receives the last item required. Correspondence will be sent to the author who submitted the article unless the Managing Editor is informed of some other suitable arrangement.

On rare occasions, an editor may consider that an article is better suited to a section of *Acta Crystallographica* other than that specified by the author(s), to the *Journal of Applied Crystallography* or to the *Journal of Synchrotron Radiation*. Any change to the section or journal of publication will only be made after full discussion with the contact author.

### 3.5. Author's warranty

The submission of an article is taken as an implicit guarantee that the work is original, that it is the author(s) own work, that all authors are aware of and concur with the submission, that all workers involved in the study are listed as authors or given proper credit in the acknowledgements, that the manuscript has not already been published (in any language or medium), and that it is not being considered and will not be offered elsewhere while under consideration for an IUCr journal. The inclusion of material in an informal publication, e.g. a preprint server or a newsletter, does not preclude publication in an IUCr journal.

The co-authors of an article should be all those persons who have made significant scientific contributions to the work reported, including the ideas and their execution, and who share responsibility and accountability for the results. Other contributions should be indicated in the acknowledgements. Changes to the list of authors will normally require the agreement of the editor and all authors.

Important considerations related to publication have been given in the ethical guidelines published in *Acc. Chem. Res.* (2002), **35**, 74–76

and Graf *et al.* [*Int. J. Clin. Pract.* (2007), **61** (Suppl. 152), 1–26]. Authors are expected to comply with these guidelines.

### 3.6. Copyright

Except as required otherwise by national laws, an author must sign and submit a copy of the Transfer of Copyright Agreement form for each manuscript before it can be accepted. Authors will be asked to transfer copyright during the electronic submission procedure. Details of author rights can be found at <http://journals.iucr.org/services/authorrights.html>. See §13.4 for information on the licensing of open-access articles.

### 3.7. Author grievance procedure

An author who believes that an article has been unjustifiably treated by the Co-editor may appeal initially to the Section Editor for a new review and, finally, to the Editor-in-chief of IUCr Journals if the author is still aggrieved by the decision. The initial appeal must be made within three months of rejection of the article. The decision of the Editor-in-chief is final. Any resubmission to another Co-editor will be forwarded to the Section Editor.

### 3.8. Contact e-mail address

The contact author must provide an e-mail address for editorial communications and despatch of electronic proofs.

### 3.9. File format

The source files required for an article are: a single file in Word, OpenOffice or L<sup>A</sup>T<sub>E</sub>X format of the text, tables and figure captions of the article; a high-resolution graphics file (minimum 600 d.p.i.) in TIFF, PostScript or encapsulated PostScript format for each figure and scheme; and files of any supplementary material. These should be uploaded as described in the **online submission instructions**.

### 3.10. Revisions

After initial submission, any revised or new files should be uploaded *via* the web interface **only** in response to a specific request from a Co-editor; these files should be uploaded at the web address provided by the Co-editor.

## 4. Abstract and synopsis

All contributions must be accompanied by an English language *Abstract* and a one or two sentence *Synopsis* of the main findings of the article for inclusion in the Table of Contents. The *Abstract* should state as specifically and as quantitatively as possible the principal results obtained.

The *Abstract* should be suitable for reproduction by abstracting services without change in wording. It should not repeat information given in the title. Ordinarily, 200 words suffice for *Abstracts of Research Papers*, *Lead Articles* and *Feature Articles*, and 100 words for shorter contributions. It should make no reference to tables, diagrams, atom numbers or formulae contained in the article. It should not contain footnotes. Numerical information given in the *Abstract* should not be repeated in the text. It should not include the use of 'we' or 'I'.

Literature references in an *Abstract* are discouraged. If a reference is unavoidable, it should be sufficiently full within the *Abstract* for unambiguous identification, e.g. [Abrahams (1994). *Acta Cryst.* **A50**, 658–685].

## 5. Diagrams and photographs ('figures')

A set of guidelines for preparing figures is available from <http://journals.iucr.org/a/services/help/artwork/guide.html>. Figures should be prepared using one of the file formats listed in §3.9.

The choice of figures should be optimized to produce the shortest article consistent with clarity. Duplicate presentation of the same information in both figures and tables is to be avoided, as is redundancy with the text. Supplementary figures may be deposited (see §12).

In articles which use powder-profile fitting or refinement (Rietveld) methods, figures that present the experimental and calculated diffraction profiles of the material studied should also contain the difference profile. As primary diffraction data cannot be satisfactorily extracted from such figures, the basic digital diffraction data should be deposited (see §12.4).

### 5.1. Quality

Electronic files in the formats listed in §3.9 are essential for high-quality reproduction. The resolution of bitmap graphics should be a minimum of 600 d.p.i.

### 5.2. Size

Diagrams should be as small as possible consistent with legibility. They will normally be sized so that the greatest width including lettering is less than the width of a column in the journal (8.8 cm).

### 5.3. Lettering and symbols

Fine-scale details and lettering must be large enough to be clearly legible (ideally 1.5–3 mm in height) after the whole diagram has been reduced to one column width.

Lettering should be kept to a minimum; grids and shadings should be avoided where they are not required for clarity. Descriptive matter should be placed in the caption.

### 5.4. Numbering and captions

Diagrams should be numbered in a single series in the order in which they are referred to in the text. A list of figure captions should be included in the manuscript.

### 5.5. Stereofigures

Atom labelling when included should be on both left and right views in stereo perspective. Both views should be incorporated into a single figure.

### 5.6. Colour figures

Colour figures are accepted at no cost to the author provided that the editor agrees that they improve the understanding of the article. Figures printed in greyscale may appear in colour in **Crystallography Journals Online**.

Authors preparing colour figures should consider how the figure would look if printed in greyscale and to readers who are colour-blind. It is very important that poor contrast (*e.g.* pale colours with a white background) be avoided.

### 5.7. Enhanced figures

An online tool for authors to prepare standard and corresponding three-dimensional interactive structural diagrams is available from <http://submission.iucr.org/jtkf>.

## 6. Tables

Authors submitting in Word should use the Word table editor to prepare tables.

### 6.1. Use of tables

Extensive numerical information is generally most economically presented in tables. Text and diagrams should not be redundant with the tables.

Structure factors, anisotropic displacement parameters, least-squares planes and unrefined H-atom coordinates are usually deposited as electronic files, see §12.

### 6.2. Design, numbering and size

Tables should be numbered in a single series of arabic numerals in the order in which they are referred to in the text. They should be provided with a caption.

Tables should be carefully designed to occupy a minimum of space consistent with clarity.

## 7. Mathematics and letter symbols

Authors submitting in Word should use the Word equation editor to prepare displayed mathematical equations.

The use of the stop (period) to denote multiplication should be avoided except in scalar products. Generally, no sign is required but, when one is, a multiplication sign ( $\times$ ) should be used.

Scalar variables and non-standard functions should appear in italic type.

Vectors should be in bold type and tensors should be in bold-italic type.

Greek letters should not be spelled out.

Care should be taken not to cause confusion by using the same letter symbol in two different meanings.

Gothic, script or other unusual lettering should be avoided. Another typeface may be substituted if that used by the author is not readily available.

All displayed equations, including those in published Appendices, should be numbered in a single series.

## 8. Multimedia

Multimedia content (*e.g.* time-lapse sequences, three-dimensional structures) is welcomed. For details of how to prepare enhanced three-dimensional figures, see §5.7.

## 9. Nomenclature

### 9.1. Crystallographic nomenclature

Authors should follow the general recommendations produced by the IUCr Commission on Crystallographic Nomenclature (see reports at <http://www.iucr.org/resources/commissions/crystallographic-nomenclature/>).

Atoms of the same chemical species within an asymmetric unit should be distinguished by an appended arabic numeral. **Chemical and crystallographic numbering should be in agreement wherever possible.** When it is necessary to distinguish crystallographically equivalent atoms in different asymmetric units, the distinction should be made by lower-case roman numeral superscripts (*i.e.* i, ii, iii *etc.*) to the original atom labels.

Space groups should be designated by the Hermann–Mauguin symbols. Standard cell settings, as listed in Volume A of *International Tables for Crystallography*, should be used unless objective reasons to the contrary are stated. When a non-standard setting is used, the list of equivalent positions should be given. Hermann–Mauguin symbols should also be used for designating point groups and molecular symmetry. It is helpful if the origin used is stated explicitly where there is a choice.

The choice of axes should normally follow the recommendations of the Commission on Crystallographic Data [Kennard *et al.* (1967). *Acta Cryst.* **22**, 445–449].

A symbol such as 123 or *hkl* without brackets is understood to be a reflection, (123) or (*hkl*) a plane or set of planes, [123] or [*uvw*] a direction, {*hkl*} a form and  $\langle uvw \rangle$  all crystallographically equivalent directions of the type [*uvw*]. Other bracket notations should be explicitly defined.

## 9.2. Nomenclature of chemical compounds etc.

Names of chemical compounds and minerals are not always unambiguous. Authors should therefore quote the chemical formulae, including chemical structural diagrams for organic and metal-organic compounds, of the substances dealt with in their articles.

Chemical formulae and nomenclature should conform to the rules of nomenclature established by the International Union of Pure and Applied Chemistry (IUPAC), the International Union of Biochemistry and Molecular Biology (IUBMB), the International Mineralogical Association (IMA) and other appropriate bodies. As far as possible, the crystallographic nomenclature should correspond to the systematic name.

Any accepted trivial or non-systematic name may be retained, but the corresponding systematic (IUPAC) name should also be given.

## 9.3. Units

The International System of Units (SI) is used except that the ångström (symbol Å, defined as  $10^{-10}$  m) is generally preferred to the nanometre (nm) or picometre (pm) as the appropriate unit of length. Recommended prefixes of decimal multiples should be used rather than ‘ $\times 10^n$ ’.

## 10. References

References to published work must be indicated by giving the authors' names followed immediately by the year of publication, *e.g.* Nèder & Schulz (1998) or (Nèder & Schulz, 1998). Where there are three or more authors, the reference in the text should be indicated in the form Smith *et al.* (1998) or (Smith *et al.*, 1998) *etc.*

In the reference list, entries for journals [abbreviated in the style of *Chemical Abstracts* (the abbreviations *Acta Cryst.*, *J. Appl. Cryst.* and *J. Synchrotron Rad.* are exceptions)], books, multi-author books, computer programs and personal communications should be arranged alphabetically and conform with the following style:

- Cowley, J. M. (1993). Editor. *Electron Diffraction Techniques*. Oxford University Press.
- CRC Handbook of Chemistry and Physics* (1983). 64th ed., edited by R. C. Weast, p. D-46. Boca Raton: CRC Press.
- Cruickshank, D. W. J. (1998). *Acta Cryst.* **A54**, 687–696.
- Ferguson, G., Schwan, A. L., Kalin, M. L. & Snelgrove, J. L. (1997). *Acta Cryst.* **C53**, IUC9700009.
- Götz, D., Herres, N., Diehl, R. & Klapper, H. (2012). In preparation. International Union of Crystallography (2012). (*IUCr*) *Crystallography Journals Online*, <http://journals.iucr.org/>.

- Keller, E. & Pierrard, J.-S. (1999). *SCHAKAL99*. University of Freiburg, Germany.
- Schwalter, M., Müller, K. & Rosenauer, A. (2012). *Acta Cryst.* **A68**, doi:10.1107/S0108767311037779.
- Sheldrick, G. M. (2008). *Acta Cryst.* **A64**, 112–122.
- Shmueli, U. & Weiss, G. H. (1985). *Structure and Statistics in Crystallography*, edited by A. J. C. Wilson, pp. 53–66. Guilderland: Academic Press.
- Smith, J. M. (2004). Personal communication.
- Zhou, P. F. (1993). PhD thesis, McMaster University, Hamilton, Ontario, Canada.

Note that all authors and **inclusive** page numbers must be given.

Identification of individual structures in the article by use of database reference (identification) codes should be accompanied by a full citation of the original literature in the reference list. Citations in supplementary material should also appear in the main body of the article.

## 11. Crystal structure determinations

Articles that report the results of crystal structure determinations of small molecules must report the associated experimental data as required in the Notes for authors for *Section C* of *Acta Crystallographica*. These data should be supplied as a single electronic file in CIF format. The CIF will be checked in the Editorial Office in Chester for internal consistency.

## 12. Supplementary publication procedure

### 12.1. Purpose and scope

Parts of some articles are of interest to only a small number of readers, and the cost of printing these parts is not warranted. Arrangements have therefore been made for such material to be made available from the IUCr electronic archive *via* **Crystallography Journals Online** or to be deposited with appropriate structural databases.

### 12.2. IUCr electronic archive

All material for deposition in the IUCr electronic archive should be supplied in one of the formats described at <http://journals.iucr.org/services/filetypes.html>.

Examples of non-structural information that may be deposited include:

- details of the experimental procedure and of the stages of structure refinement;
- details of mathematical derivations given only in outline in the main text and in mathematical Appendices;
- lengthy discussion of points that are not of general interest or that do not lead to definite conclusions but that do have significant value;
- additional diagrams;
- and multimedia content.

Structural information (for small-molecule structures) should be supplied in CIF format; structure factors should be supplied as .fcf files.

Authors are encouraged to submit chemical connectivity (MOL, CML, CHM, SMI) files of reported structures with their articles. These files will be made available as part of the supplementary materials for each article and will be used to provide InChI (Inter-

national Chemical Identifier) keys for the article, making the structures easier to find in the chemical literature.

### 12.3. Macromolecular structures

Authors should follow the deposition recommendations of the IUCr Commission on Biological Macromolecules [*Acta Cryst.* (2000). D56, 2]. For all structural studies of macromolecules, coordinates and the related experimental data (structure-factor amplitudes/intensities and/or NMR restraints) must be deposited at a member site of the Worldwide Protein Data Bank (<http://www wwpdb.org/>) if a total molecular structure has been reported. Authors are encouraged to deposit their data with the wwPDB in advance of submission to the journal and to provide an mmCIF and a wwPDB validation report on submission. Authors must supply the wwPDB reference codes before the article can be published.

Authors are encouraged to make arrangements for the diffraction data images for their structure to be archived.

### 12.4. Powder diffraction data

Authors of powder diffraction articles should consult the notes provided at <http://journals.iucr.org/services/cif/powder.html>. For articles that present the results of powder diffraction profile fitting or refinement (Rietveld) methods, the primary diffraction data, *i.e.* the numerical intensity of each measured point on the profile as a function of scattering angle, should be deposited.

## 13. Author information and services

An author services page is available at <http://journals.iucr.org/a/services/authorservices.html>.

### 13.1. Author tools

A number of tools are available to help with the preparation of articles.

Word, OpenOffice and L<sup>A</sup>T<sub>E</sub>X templates can be downloaded from the author services page.

Table tools within the Word template, the table converter at <http://publicif.iucr.org/services/tools> or the program *pubCIF* may be used to prepare tables of experimental details and geometric parameters suitable for inclusion in an article.

A toolkit for preparing enhanced figures is available at <http://submission.iucr.org/jtk>.

For structural articles, CIFs can be checked using the *checkCIF/PLATON* service at <http://checkcif.iucr.org> and edited using *pubCIF*, available from <http://publicif.iucr.org>.

### 13.2. Electronic status information

Authors may obtain information about the current status of their articles at <http://journals.iucr.org/services/status.html>.

### 13.3. Proofs

Proofs will be provided electronically in portable document format (pdf). The contact author will be notified by e-mail when the proofs are ready for downloading.

### 13.4. Open access

At the proof stage, authors will be given the opportunity to make their articles 'open access' on **Crystallography Journals Online**. Authors of open-access articles will not be asked to transfer copyright to the IUCr, but will instead be asked to agree to an open-access licence. This licence is identical to the Creative Commons Attribution Licence.

### 13.5. Reprints

After publication, the contact author will be able to download the electronic reprint of the published article, free of charge. Authors will also be able to order printed reprints at the proof stage.

### 13.6. Crystallography Journals Online

All IUCr journals are available on the web *via* **Crystallography Journals Online**; <http://journals.iucr.org/>.