

**Ministry of Science and Higher Education of the Russian Federation  
Russian Academy of Sciences**

**Peter the Great St. Petersburg Polytechnic University**  
with the support and participation of  
**Russian Foundation for Basic Research (RFBR)**



MINISTRY OF SCIENCE  
AND HIGHER EDUCATION OF  
THE RUSSIAN FEDERATION



**POLYTECH**  
Peter the Great  
St. Petersburg Polytechnic  
University

**INTERNATIONAL CONFERENCE**

**«MODERN MATERIALS AND ADVANCED  
MANUFACTURING TECHNOLOGY»**



**MMAMT 2019**

**JUNE 25-28, 2019  
Saint Petersburg**

## **Conference Chairman**

Prof. Andrei Rudskoi, Peter the Great St. Petersburg Polytechnic University  
(Russia)

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Head of Congress Dept. A.L. Smirnova	Prof. Yin Fuxing (China)
Prof. H. Danninger (Austria)	

## **The purpose of the conference**

To analyze and discuss the modern achievements of science and technology in the field of a wide range of problems associated with theoretical, technological and engineering problems in the field of metal, ceramic and composite materials, including powder.

The conference program includes issues related to breakthrough technologies for manufacturing products from these materials.

Conference site: <http://smppt.spbstu.ru/>

## **Conference Highlights**

1. Nanocrystalline and nanostructured metal materials
2. Modern technological processes of metal materials processing
3. Nanostructured powders; composite, ceramic materials and coatings
4. Biomaterials, new materials for medicine. 3-D printing of biomaterials
5. Additive technology
6. Modeling of physical and mechanical properties of materials and technological processes of their production. Digital twins: materials, structures and technologies
7. Materials with special optical, electrical and magnetic properties
8. Smart materials and technologies.

## **School for Young Scientists**

Perspective materials and technologies: from invention to implementation

## **Information for participants**

Registration fee includes coffee breaks, lunches, conference dinner, preparing an article for publication, published article in a journal indexed in Web of Sciences/Scopus, conference bag, simultaneous translation and sightseeing program. (Appendix 3).

## **Information for participants who need visa support**

To apply for a **Visa Invitation Letter** to obtain **a Russian Visa** in your country, you should fill in Visa Registration form (Appendix 1) and send by email **smppt@spbstu.ru** together with a copy of the first page of passport.

## **Important dates**

Before June 1, 2019 - submission of theses (1 p.)

Before June 3, 2019 - submission of final articles after the authors are included in the Conference program.

## **Rules for articles**

Rules for articles see in Appendix 3 (below).

Number of authors for one article is not more than four and the number of articles for each author is not more than two.

The volume of articles must be up to 15 pages.

The articles must be sent to the Organizing Committee by e-mail at the following

address: [smppt@spbstu.ru](mailto:smppt@spbstu.ru).

The articles approved by the Scientific Committee will be published in a journal indexed in Web of Sciences/Scopus.

\* Theses of the report must be presented in Russian on 1 page.

Rules for abstracts see in Appendix 3.

Abstracts of the reports approved by the Program Committee will be published in the system of scientific citing of the RSCI and presented in handouts.

### **Registration fee**

Before June 3, 2019 – €400

After June 3, 2019 – €450 (payment is to be made at registration)

### **Payment methods**

#### **Bank account for EUR transfer:**

Intermediary bank:

SWIFT:

Beneficiary, s bank: Bank «Saint-Petersburg» PJSC  
64A Maloohinsky Prospect, St. Petersburg 195112,  
Russian Federation  
SWIFT: JSBSRU2P

Beneficiary: account 40503978490550200001  
Peter the Great St. Petersburg Polytechnic University (SPbPU),  
29, Polytechnicheskaja str., St Petersburg,  
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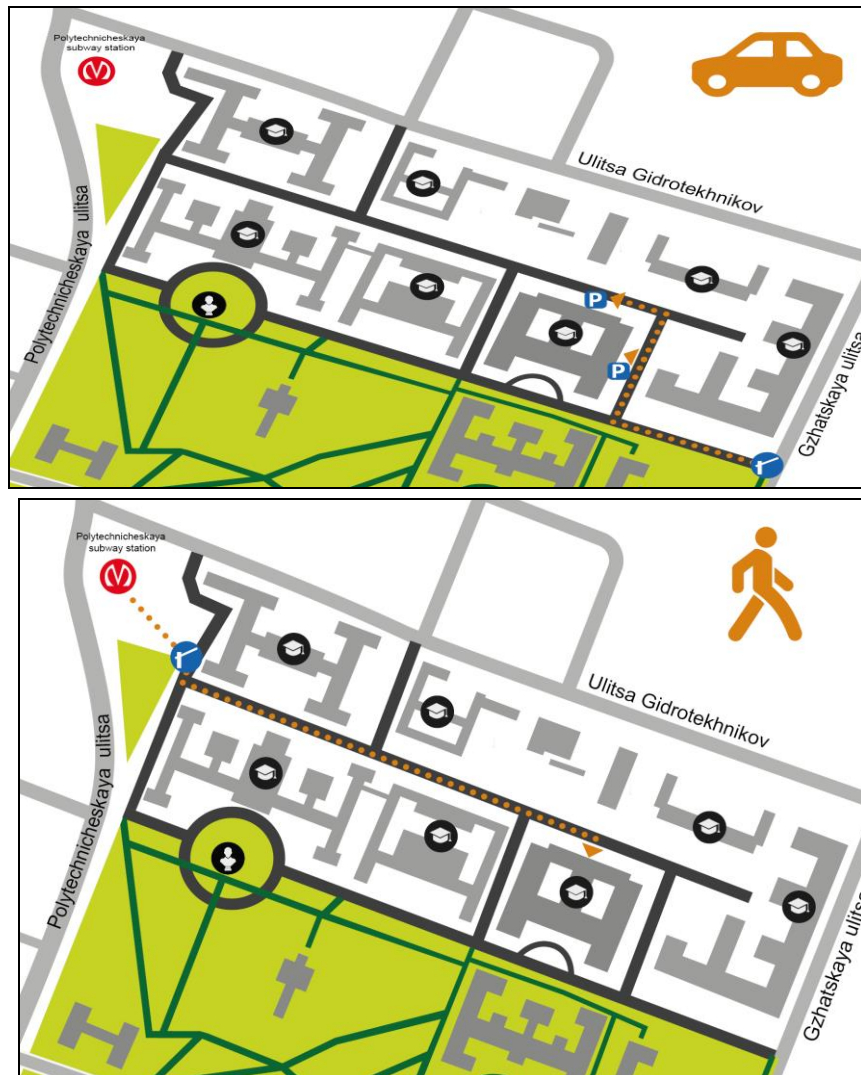
**Please, write your NAME and the CONFERENCE TITLE (SMPPT2019)**

Example: John Brown, SMPPT2019.

## The conference venue

The conference will be held in Peter the Great St. Petersburg Polytechnic University.

Address: Politekhnikeskaya str. 29, (“Politekhnikeskaya” metro station), Research building.



## Contact Information

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Tel.: +7 (812) 297 20 88

E-mail: [smppt@spbstu.ru](mailto:smppt@spbstu.ru)

Entry VISA Registration Form

Last Name \_\_\_\_\_  
First Name \_\_\_\_\_  
Other Names \_\_\_\_\_  
Dates of birth \_\_\_\_\_  
Citizenship \_\_\_\_\_

Place of birth:  
Country \_\_\_\_\_  
City \_\_\_\_\_

Country of permanent residence:  
Country \_\_\_\_\_  
City \_\_\_\_\_

Passport number \_\_\_\_\_  
Date of issue \_\_\_\_\_  
Date of expiry \_\_\_\_\_

Place of visa issuing (country, city) \_\_\_\_\_

Place of work:  
Organization \_\_\_\_\_  
Address \_\_\_\_\_  
Position \_\_\_\_\_  
E-mail \_\_\_\_\_  
Fax \_\_\_\_\_  
Phone \_\_\_\_\_

**\*\*\* For accompanying person**

Last Name \_\_\_\_\_  
First Name \_\_\_\_\_  
Place of work:  
Organization \_\_\_\_\_  
Address \_\_\_\_\_  
Position \_\_\_\_\_

\* Accompanying person (in case if someone retired or unemployed) are required to provide the copy of marriage certificate certified by an Apostille at the Consulate of your country (for husband/wife) and send it by email.

\* If accompanying person is child: participants should provide the copy of Child Birth certificate certified by an Apostille at the Consulate of your country and send it by email.

For detail information, please contact us.

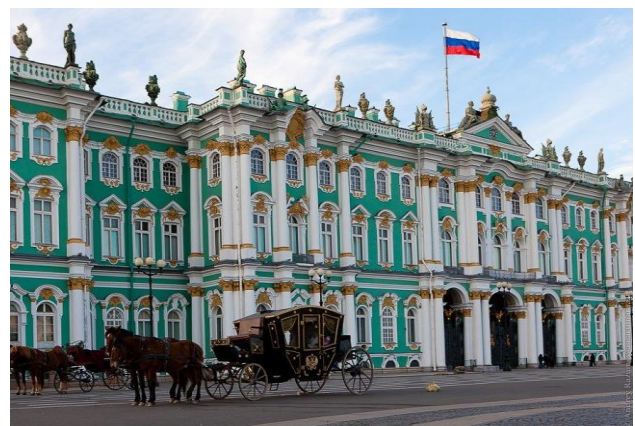
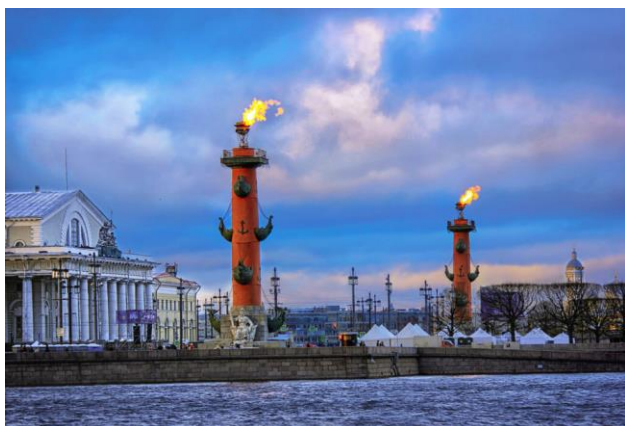
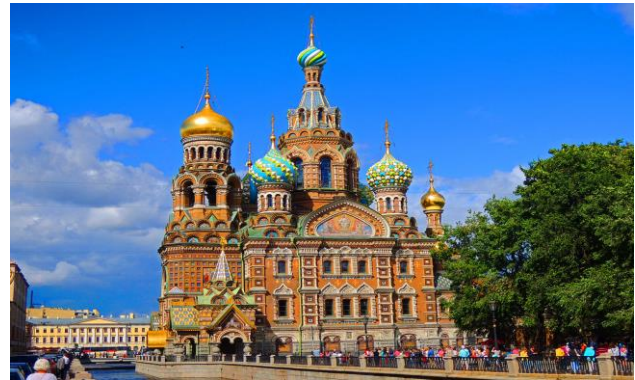
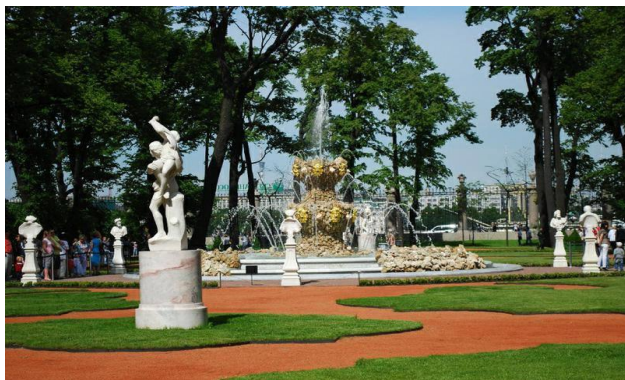
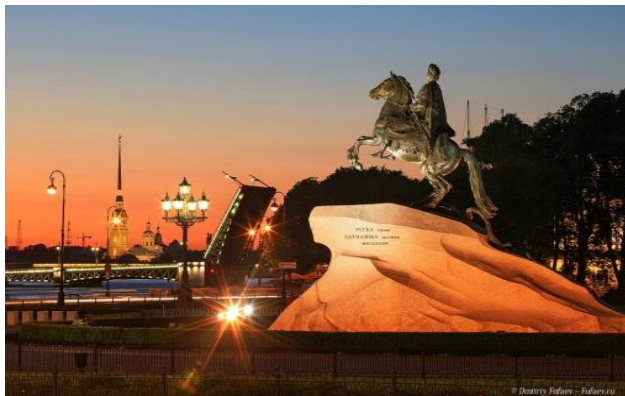
**Please note!**

Copy of the first page of your passport sent by e-mail is necessary for visa proceedings.  
Visa support letter (official invitation) will be sent to you within **2 months** (for EU members within **1 week**).

Excursion program

**1. Sightseeing tour «Brilliant St. Petersburg» is free of charge**

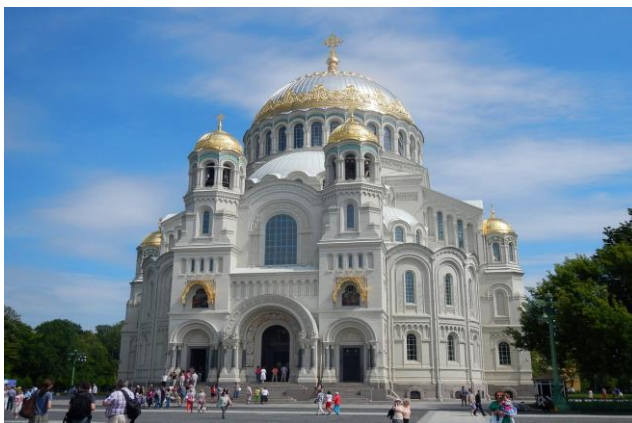
The tour will focus on the examination of the front, imperial Petersburg. During the excursion you will see Nevsky prospect, Palace square, Field of Mars, Admiralty, Bronze Horseman, St. Isaac Cathedral, the spit of Vasilievsky island, Kunstkamera, Peter and Paul fortress, Summer garden, the Church "Savior on Blood", Mikhailovsky Palace – Russian Museum, Mikhailovsky castle, Trinity square, the House of Peter I, Alexander Nevsky Lavra, Alexandrinsky theatre, Gostiny Dvor, Kazan Cathedral, Mariinsky theatre, Smolny convent.



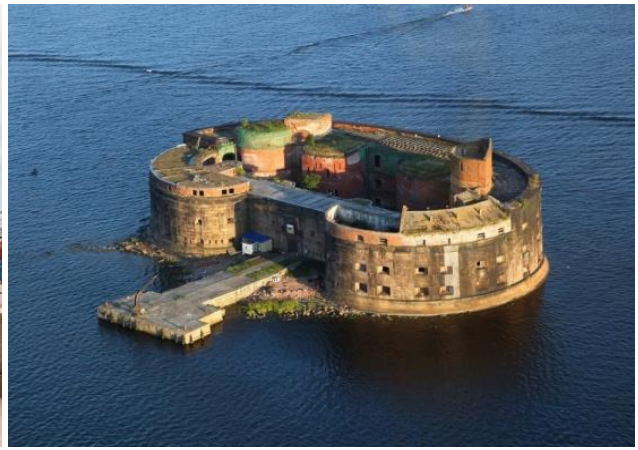
## **2. Kronstadt as a maritime outpost of St. Petersburg and the naval base of Russia (paid tour)**

Kronstadt is the most distant and unusual of the seven suburbs of St. Petersburg. It is located in 48 km from Saint-Petersburg. Unique value of Kronstadt as a naval outpost, built to protect the new capital St. Petersburg, was almost immediately after its foundation. The history of the city is inseparably linked with Peter I, formation and strengthening of the Navy of Russia, great inventions and discoveries of Russian scientists, the heroic events of the great Patriotic war. The historical part of Kronstadt and the Kronstadt fortress consisting of the object "Historic centre of Saint Petersburg and related complexes of monuments" are included into the world heritage list of UNESCO. In Kronstadt, there are more than 300 monuments of history, culture, and technology. The unique hydro technical and defensive structures, beautiful buildings and ensembles, such as the Kronshlot Fort, the complex of province houses of the beginning of the 18th century, the world's first self-discharging canal- dock of Peter the Great, a model of the military town of the 18th century, the Naval Cathedral of the early 20th century, the construction of which used the techniques of the construction of Saint Sophia in Constantinople.

During the city tour we will see the Anchor square, monument to Vice-Admiral Makarov, Makarov bridge, a monument to Peter I, the Dutch kitchen, «Tree of wishes», Petrovsky dock, seamark, Solar World clock, monument to John of Kronstadt, monument to smelt (fish) and a real beauty - the Naval Cathedral. Also we will visit the Konstantin fort .



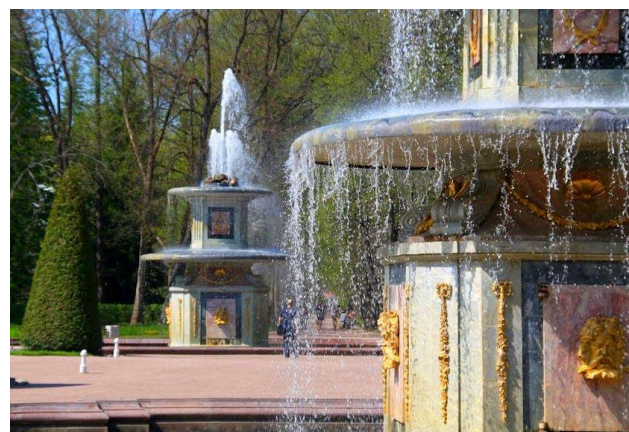
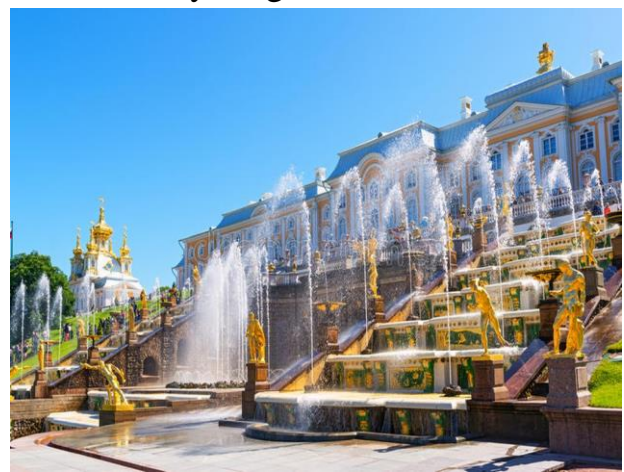




### 3. Excursion to Petrodvorets (Peterhof) and visit to Tsarskoye Selo (Pushkin) paid tour

The world-famous palace and park ensemble of Petrodvorets (Peterhof, until 1944), located 29 kilometers from St. Petersburg, is one of the highest achievements of Russian national culture, a magnificent example of organic synthesis of architecture and sculpture, landscape gardening and engineering art. The ensemble, which arose at the beginning of the 18th century on the shores of the Gulf of Finland, is a peculiar monument in honor of the victorious conclusion of the Northern War and Russia's access to the Baltic Sea.

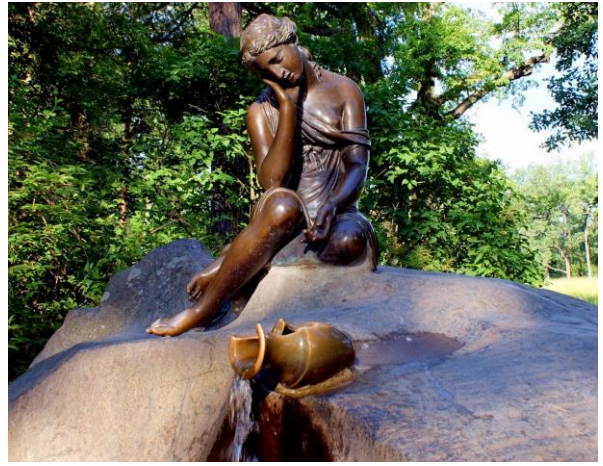
Today, thanks to the unforgettable beauty of its fountains, parks and palaces, Peterhof has become the most attractive suburban palace ensemble of the Northern Capital of Russia. By visiting Peterhof and experiencing its magical charm, you will get an aesthetic pleasure that is not comparable with anything.





#### 4. Excursion to Tsarskoye Selo (Pushkin), Catherine Palace paid tour





Tsarskoye Selo is a fascinating monument of the world's architectural and gardening art. Peter the Great ordered to construct the small palace for his wife, future empress Catherine I. In the middle of the 18th century the palace was rebuilt and became the pearl of architecture of that period. The grandeur of the artistic decor of the facades, the moulded decorations, the gilding of architectural and sculptural details, all echoes the majesty and elegance of the interior decoration of the Catherine Palace. The Amber Room, which was presented to Peter I by the Prussian King in 1716, known as the Eighth Wonder of the World, used to be in this Palace. The amber ornamentation of this room, missing since 1945, is now being reconstructed by Russian gem carvers. The park of Tsarskoye Selo was the favorite resting place of the Russian Tsars. The avenues lay out around the Catherine Palace invited for a walk to see park pavilions erected by famous architects and sculptors of Russia.

### **Your Paper's Title Starts Here: Please Center use Helvetica (Arial) 14**

FULL First Author<sup>1, a \*</sup>, FULL Second Author<sup>2, b</sup> and FULL Last Author<sup>3, c</sup>

<sup>1</sup>Full address of first author, including country

<sup>2</sup>Full address of second author, including country

<sup>3</sup>List all distinct addresses in the same way

<sup>a</sup>email, <sup>b</sup>email, <sup>c</sup>email

\* please mark the corresponding author with an asterisk

**Keywords:** List the keywords covered in your paper. These keywords will also be used by the publisher to produce a keyword index.

**For the rest of the paper, please use Times Roman (Times New Roman) 12**

**Abstract.** This template explains and demonstrates how to prepare your camera-ready paper for *Trans Tech Publications*. The best is to read these instructions and follow the outline of this text.

Please make the page settings of your word processor to A4 format (21 x 29.7 cm or 8 x 11 inches); with the margins: bottom 1.5 cm (0.59 in) and top 2.5 cm (0.98 in), right/left margins must be 2 cm (0.78 in).

**We will be able to publish your paper in electronic form on our web page <http://www.scientific.net> if the paper format and the margins are correct.**

Your manuscript will be reduced by approximately 20% by the publisher. Please keep this in mind when designing your figures and tables, etc.

### **Introduction**

All manuscripts must be in English, also the table and figure texts, otherwise, we cannot publish your paper.

Please keep the second copy of your manuscript in your office. When receiving the paper, we assume that the corresponding authors grant us the copyright to use the paper for the book or journal in question. Should authors use tables or figures from other Publications, they must ask the corresponding publishers to grant them the right to publish this material in their paper.

Use *italic* for emphasizing a word or phrase. Do not use boldface typing or capital letters except for section headings (cf. remarks on section headings, below).

### **Organization of the Text**

**Section Headings.** The section headings are in boldface capital and lowercase letters. Second level headings are typed as part of the succeeding paragraph (like the subsection heading of this paragraph).

**Page Numbers.** Do not number your paper:

**Tables.** Tables (refer with: Table 1, Table 2, ...) should be presented as part of the text, but in such a way as to avoid confusion with the text. A descriptive title should be placed above each table. Units in tables should be given in square brackets [meV]. If square brackets are not available, use curly {meV} or standard brackets (meV).

**Special Signs.** For example,  $\alpha \gamma \mu \Omega () \geq \pm \bullet \Gamma \{11\bar{2}0\}$  should always be written in with the fonts Times New Roman or Arial, especially also in the figures and tables.

**Macros.** Do not use any macros for the figures and tables. (We will not be able to convert such papers into our system)

**Language.** All text, figures and tables must be in English.

**Figures.** Figures (refer with: Fig. 1, Fig. 2, ...) should be presented as part of the text, leaving enough space so that the caption will not be confused with the text. The caption should be self-contained and placed *below or beside* the figure. Generally, only original drawings or photographic reproductions are acceptable. Only very good photocopies are acceptable. Utmost care must be taken to *insert the figures in correct alignment with the text*. Half-tone pictures should be in the form of glossy prints. If possible, please include your figures as graphic images in the electronic version. For best quality, the pictures should have a resolution of 300 dpi (dots per inch).

Color figures are welcome for the online version of the journal. Generally, these figures will be reduced to black and white for the print version. Authors should indicate on the checklist if they wish to have them printed in full color and make the necessary payments in advance.

**Equations.** Equations (refer with: Eq. 1, Eq. 2, ...) should be indented 5 mm (0.2"). There should be one line of space above the equation and one line of space below it before the text continues. The equations have to be numbered sequentially, and the number put in parentheses at the right-hand edge of the text. Equations should be punctuated as if they were an ordinary part of the text. Punctuation appears after the equation but before the equation number. The use of Microsoft Equation is allowed.

$$c^2 = a^2 + b^2. \quad (1)$$

### **Literature References**

References are cited in the text just by square brackets [1]. (If square brackets are not available, slashes may be used instead, e.g. /2/.) Two or more references at a time may be put in one set of brackets [3, 4]. The references are to be numbered in the order in which they are cited in the text and are to be listed at the end of the contribution under the heading *References*, see our example below.

### **Summary**

If you follow the “checklist”, your paper will conform to the requirements of the publisher and facilitate a problem-free publication process.

### **References**

[1] J. van der Geer, J.A.J. Hanraads, R.A. Lupton, The art of writing a scientific article, *J. Sci. Commun.* 163 (2000) 51-59.

Reference to a book:

[2] W. Strunk Jr., E.B. White, *The Elements of Style*, third ed., Macmillan, New York, 1979.

Reference to a chapter in an edited book:

[3] G.R. Mettam, L.B. Adams, How to prepare an electronic version of your article, in: B.S. Jones, R.Z. Smith (Eds.), *Introduction to the Electronic Age*, E-Publishing Inc., New York, 1999, pp. 281-304.

[4] R.J. Ong, J.T. Dawley and P.G. Clem: submitted to *Journal of Materials Research* (2003)

[5] P.G. Clem, M. Rodriguez, J.A. Voigt and C.S. Ashley, U.S. Patent 6,231,666. (2001)

[6] Information on <http://www.weld.labs.gov.cn>