

Russian Geological Society  
Russian Geographical Society  
Saint-Petersburg Mining Engineers' Society  
Saint-Petersburg Department of Physical Society  
University of Communication  
International Academy of Information Communication and Control  
International Scientists' Club  
Russian Academy of Natural Sciences  
Russian Academy of Electrotechnical Sciences  
Scientific centre TEKSEED (USA)

**INTERNATIONAL CONGRESS-2002  
FUNDAMENTAL PROBLEMS OF NATURAL SCIENCES AND  
ENGINEERING.**

July, 8-13, 2002, Saint-Petersburg, Russia.

**INVITATION**

Dear Sir!

We are pleased to inform you that the next International Scientific Congress-2002 “FUNDAMENTAL PROBLEMS OF NATURAL SCIENCES AND ENGINEERING” will take place in Saint Petersburg, Russia July 8-13, 2002.

A discussion on modern theoretical, experimental and engineering problems in different areas of Natural Science and Engineering is supposed to be under consideration. The organising committee believes that time for investigations devoted to the deeper understanding of reality and comprehension of scientific achievements about nature and society has come.

**PROBLEMS TO BE DISCUSSED:**

- Fundamental approaches to the cognition of reality.
- Organising levels, elements and structure of objects in natural science.
- Time and space in the real universe.
- Etherodynamics, electrodynamics and gravitation
- Earth covers, their interaction and the problem of climate.
- Physical basis of information systems.
- Energy, engineering and technologies of the new Millennium.

Plenary sessions are to be devoted to reports on fundamental problems selected by organising committee and summaries of poster and section sessions.

In addition to reports at plenary and section sessions poster sessions will be also held. They are one of the most important and effective working forms of the Congress-2002. Participants of poster sessions will have place and time for discussions with scientists interested in their report. At the same time every participant will have an opportunity for personal meetings with posters reporters.

The International Catharsis Conference “Science perspectives” will also be held during the Congress-2002.

The working languages are Russian and English, simultaneous (vice-versa) translation into English, video record of some sessions and reports with edition on CD will be provided. Plenary sessions and perhaps some section meetings are to be transmitted over Internet-TV.

Sightseeing tours around Saint-Petersburg, its museums, visiting theatres will be arranged.

Plenary and poster sections will be held at the University of Communication campus (next to the Saint-Petersburg’s Technical University), where meals and accommodations for all participants of Congress-2002 will be arranged.

Address: 194064, Saint-Petersburg, the Tikhoretski prospekt,3.

Metro station “Politeknicheskaya”; bus #69, trams ## 38, 40, 46,53, 55, 61; trolleybuses # 4, 13, 21, 34, 50; line-taxies.

Participants who inform organising committee of the date, time and flight number of their arrival before June 1 will be met at the airport.

#### **INTERNATIONAL PROGRAMMING COMMITTEE OF THE CONGRESS-2002**

Kondratyev K.J.	Chairman	Academician of RAS	St-Petersburg, Russia
Dragunov W.I.	Vice-chairman	Prof.	St-Petersburg, Russia
Ivlev L.S.	Vice-chairman	PhD	St-Petersburg, Russia
Klyushin J.G.	Vice-chairman	PhD	St-Petersburg, Russia
Smirnov A.P.	Vice-chairman	Prof.	St-Petersburg, Russia
Schpitalnaya A.A.	Secretary	PhD	St-Petersburg, Russia
Andreyev S.I.		PhD	St-Petersburg, Russia
Bazhenova T.K.		PhD	St-Petersburg, Russia
Bishop R.		PhD	USA
Boehm M.F.		Prof.	Germany
Dmitrievski A.N.		Academician of RAS	Moscow, Russia
Dvoeglazov V.V.		PhD	Mexico
Efimov A.A.		PhD	St-Petersburg, Russia
Gramberg I.S.		Academician of RAS	Moscow, Russia
Gruber J.		Prof.	Germany
Ivanchenko G.E.		Prof. RAETS secretary-academician	Moscow, Russia
Katkov M.S.		Prof.	St-Petersburg, Russia
Kay Guy Kathelin		Prof.	People’s Republic of China
Kutsenko M.S.		Prof.	Ukraine
Leyva-Consales		Prof.	Mexico
Lisenko W.A.		Prof.	Ukraine
Michaud A.		Prof.	Canada
Munch N.		Prof.	USA
Nassikas A.		Prof.	Greece
Oleynikov A.N.		Prof.	St-Petersburg, Russia
Onochin V.V.		Engineer	Moscow, Russia
Pistshhevitski Ja.		PhD	Novosibirsk, Russia
Petlenko B.G.		Prof., RAETS president	Moscow, Russia
Rodionov W.G.		PhD	Moscow, Russia

Rudnic W.A.		Prof.	St-Petersburg, Russia
Sano C.		PhD	Japan
Smyslov A.A.		Prof.	St-Petersburg, Russia
Whitney C.		PhD, Prof.	USA
Zielinski A.		Prof.	Germany

### LOCAL ORGANISING COMMITTEE OF THE CONGRESS-2002

Smirnov A.P.	Chairman	Prof.	St-Petersburg, Russia
Dragunov W.I.	Vice-chairman	Prof.	St-Petersburg, Russia
Ivlev L.S.	Vice-chairman	PhD	St-Petersburg, Russia
Klyushin J.G.	Vice-chairman	PhD	St-Petersburg, Russia
Schpitalnaya A.A.	Secretary	PhD	St-Petersburg, Russia
Andreev S.I.		PhD	St-Petersburg, Russia
Butusov K.P.		PhD	St-Petersburg, Russia
Werbin J.P.		PhD	St-Petersburg, Russia
Ephimov A.A.		PhD	St-Petersburg, Russia
Zakoldayev J.A.		PhD	St-Petersburg, Russia
Katkov M.S.		Prof.	St-Petersburg, Russia
Kolesnichenko-Janushev S.L.		Engineer	St-Petersburg, Russia
Samokhin W.F.		Prof.	St-Petersburg, Russia
Fogel W.A.		Engineer	St-Petersburg, Russia
Alekseev W.A.		PhD	Troitsk, Moscow

### ORGANISING COMMITTEE CONTACTS:

190031, Saint-Petersburg, ul.Kazanskaya, 36. International Scientists Club.  
 Fax: +7 (812) 312-85-65 (day and night);  
 Phones: +7 (812) 174-88-48 (06.00–10.00, 16.00–20.00, Greenwich time, English)  
 +7 (812) 100-50-52 (17.00 - 21.00, Greenwich time, German, French)  
 E-mail: [science@shaping.org](mailto:science@shaping.org);  
 Internet: <http://www.physical-congress.spb.ru>

### INFORMATION FOR PARTICIPANT

#### 1. Registration Form and Passport Data.

Participants should inform the organising committee about their intention to attend the congress. To do so, please, fill in the enclosed Registration Form and either return it by the above mentioned fax or send out the appropriate information by regular mail or E-mail or simply let us know it by phone.

In order to apply for your visa at our end we need a faxed copy of your passport as well as those of all persons accompanying you. It should be a copy of the passport unfolded at the page(s) containing all passport data (see the enclosed Registration Form) as well as the photo. Moreover, in case if the passport data are difficult to make out on a faxed copy, we kindly ask you to supply the Registration Form with the required passport info by hand. We would like you to fax us such passport copy(-ies) together with the Registration Form (or separately if you prefer to return the Registration Form by E-mail).

Since the visa application procedure might take rather a long time, we expect to get the Registration Form together with passport data and faxed passport copy(-ies) form you before May 1st, 2002.

#### 2. Abstract of Your Paper for Presentation.

You are expected to send us an abstract of the paper you are going to present at the congress. All submitted materials should be in English. The abstract will be published in the programme of the congress.

The abstract volume must not exceed 1000 characters approx. (half a page of the size A4). The abstract must be sent to us as an electronic document, i. e. on a computer diskette or by E-mail. If your abstract contains equations you are strongly recommended to send the abstract by fax or conventional post too, since equations are subject to distortion on different computers with different software installed. For requirements to all materials submitted to the organising committee for publication either in the proceedings or on Internet see the enclosed instructions. We expect to get your abstract by April 1st, 2002. Publication of abstracts sent in after April the 1st cannot be guaranteed.

### **3. Full Text of Your Paper for Presentation.**

You ought to send us the full text of your paper to be subsequently published in the congress proceedings (printed or recorded on CD) or on the Internet. The full paper must be sent to us as an electronic document, i. e. on a computer diskette or by E-mail. If your paper contains equations you are strongly recommended to send the paper by conventional mail too, since equations are subject to distortion on different computers with different software installed. For requirements to all materials submitted to the organising committee for publication either in the proceedings or on Internet see the enclosed instructions. In case when you are not going to submit your full paper for subsequent publication in the congress proceedings you ought to send us the entire text of your paper nonetheless because it is necessary for interpreters to prepare themselves to simultaneous translation of your speech into Russian. We expect to get the entire text of the paper you are going to present by April 1st, 2002. The papers get before the 1<sup>st</sup> of April 2002 will be included in the collection of Congress proceedings, which is going to be printed by the moment of the Congress' conducting. The papers sent after the 1<sup>st</sup> April 2002 will be published in the autumn 2002.

### **4. Proceedings of the Congress.**

- Book of the congress proceedings.  
The book is due to appear by the moment of Congress' conducting (provided that all participants of the congress submit their papers for publication on time). The paper to be published should be submitted by April 1st, 2002 and must meet the requirements listed in the enclosed instructions. Publication charges are listed in the Registration Fee and Other Expenses section. As soon as the book is printed a free copy of it will be sent to each author. We set such an early deadline (April 1st) because the same papers (i.e. submitted for publication in the printed proceedings) will also be included into proceedings of the congress on a computer CD that is to be completed by the end of the congress.
  - Proceedings of the congress on a computer CD.  
This is an electronic version of the printed proceedings. It will contain the same papers, i.e. papers submitted for publication in the printed version. The CD is due to appear by the end of the congress or in the autumn 2002. Price for such CD is indicated in the Registration Fee and Other Expenses section. If you are going to acquire such a CD, please, mark the appropriate point in the Registration Form.
  - Proceedings of the congress on the Internet.  
Papers submitted for publication in the printed version (and CD) may also be placed on the congress's Internet site. Furthermore, participants' speeches (when reading their papers at sessions) will be recorded on videocassette and CD. The real video record of your speech at the congress may also be placed on the above-mentioned Internet site. See the Registration Fee and Other Expenses section for price list.
  - Video record of the congress on videocassettes.  
Records of the congress sessions on videocassettes are due to appear in the autumn of 2002 and will be distributed by personal orders.
  - Video record of the congress on computer CD.  
This is a real-video record of participants' speeches (including yours) at the congress on a computer CD. The CD is due to appear in the autumn of 2002 and will be distributed by personal orders.
- In order to enable us to publish your paper in the congress proceedings we need an appropriate authorisation signed by you. The authorisation to sign is at the bottom of the Registration Form. In case if you return the Registration Form by E-mail you may sign the authorisation when you are here.

### **5. Requirements to All Materials Submitted for Publication.**

The present rules are applicable to any electronic and printed materials submitted to the organising committee for further publication:

- in the book of proceedings
- on a computer CD with proceedings of the congress
- over the Internet.

Compulsory terms:

- Papers must be stored on a diskette in the Microsoft Word 95 or 97 word processor format.
- Equations must be embedded into text and entered by means of the Microsoft Equation 3.0 equations editor. This is the most common equations editor which is usually installed on computer together with the Microsoft Word 95/97 word processor.
- Pictures must be stored on diskette in the GIF format and embedded in the article's text.

See the enclosed sample sheet for more requirements the materials must meet.

Mind that when placing on the Internet a paper abundant in equations, insignificant but unfortunately inevitable distortions may occur due to shortcomings Internet to the process of conversion from the equations' source format to the format suitable for the Internet. Most typical distortions are equations shift up with respect to the text baseline and a certain blur or slight shade. In so doing equations themselves are not distorted.

### **6. Available Equipment**

Lecture rooms of the congress are equipped with the following facilities:

- Overhead projector (to demonstrate materials on sheets of transparent film).
- Videocassette and video CD player.
- Slide and diskette projector.
- Poster stands.
- Blackboard and chalk.
- Personal computers.

### **7. Accommodation and Meals. Entertainment/Leisure-Time.**

Participants are provided with accommodation and meals at the University of Communication. Meals (breakfast and lunch) are included into accommodation prices. Participants will stay at the University hotel or hotel not far from University. Some apartments consist of 2 rooms and a bathroom. Therefore, in case if only one room is booked, the guest will share a common bathroom with his neighbour in the adjacent room.

Do not forget to let us know the flight number as well as the exact date and time of your arrival to St.-Petersburg not later than 1<sup>st</sup> July 2002. This is necessary for us to pick you up at the airport.

### **8. Registration Fee and Other Expenses**

The registration fee entitles participants to take part in all activities of the congress and covers a printed programme of the congress, book of abstracts, visa application duties (at our end), simultaneous translation at the congress sessions, transport from and to the airport. You may also pay in advance for accommodation and meals if you know for sure how many days you are going to spend at the congress.

Registration fee:

If paid before April 1, 2002:

Participant:	300 USD
Student:	150 USD
Accompanying person:	50 USD

If paid after April 1, 2002:	
Participant:	350 USD
Student:	175 USD
Accompanying person:	75 USD
Accommodation and meals (breakfast and lunch, per person a night):	
VIP 2 rooms luxury suite (single, double or twin beds)	250 USD
2 rooms luxury suite (single, double or twin beds):	150 USD
1 rooms apartment (single bed):	75 USD
Single bed room (1 common bathroom for 2 rooms):	50 USD
Paper publication in printed proceedings (per page, see the enclosed instructions for required page size):	
	15 USD
Additional editor's work (see the enclosed requirements for submitted papers):	5 USD
Paper publication on the Internet (per page, see the instructions for required page size):	5 USD
Computer CD with proceedings of the congress:	30 USD
Placement of the Real-Video record of your speech on the Internet site of the congress:	150 USD
Payments should be made in US dollars (USD) in one of the following ways:	
<ul style="list-style-type: none"> <li>• In cash on arrival.</li> <li>• Through the Western Union facilities in favour of J. G. Klyushin, Budapeshtskaya st. 5-3-241, 192242 St.-Petersburg, Russia, home phone: +7(812) 174-88-48. Please, ask the Western Union to notify J. G. Klyushin by phone upon arrival of payment.</li> <li>• By transfer to the organising committee's bank accounts which are as follows: Bank account number for payments in USD: Account with institution SABRRUMMSH1 Saving Bank of Russia, St.-Petersburg City Office, St.-Petersburg, Russia To beneficiary account 4230184075510000104901 in favour of Klyushin Jaroslav Grigoryevich.</li> </ul>	

## INSTRUCTION FOR PREPARING OF THE SCIENTIFIC PAPERS FOR THE CONGRESS “FUNDAMENTAL PROBLEMS OF NATURAL SCIENCES AND ENGINEERING” PROCEEDINGS

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*The instruction on usage of a template has been built especially for preparing of the papers to issuing in Proceedings of the conferences with the help of the editor MS Office Word 1997 or 2000 or later version. The instruction is written with the purpose to help to the authors and Organizing committee to optimize the operations on issuing of Proceedings of conferences.*

### Introduction

Write the present template, obtained from Organizing committee, on your hard disk with the computer name «**Conf\_Proceedings.dot**». Hereinafter we are suspected, that the full path to the sent file will be such: C:\Windows\Application Data\Microsoft\Templates\Conf\_Proceedings.dot.

Print out the obtained file with your printer and read it.

The main purpose of present template is to supply all papers of the Proceedings by the united style. Observe, that in your available text the extra spaces between words (there should be only one space after any word, with rare exception) be deleted. Thus the sign of «transfer of a slide» — clicking the «Enter» key — should be put only at the end of the paragraph.

## The proper instruction of creation of the paper in the format of the conference Proceedings

### 1. Insertion of the available text

Run the WORD, close the built by default «Document 1», then from the Menu **File** select **Create**. From the offered templates list dialog select «**Conf\_Proceedings.dot**». In the again opened «Document 1» delete the text of the present description (**Edit, Select all, Delete**). Insert the available already your future paper text. Then from menu point **Service** select **automatic hyphenation**. Save your «Document 1» with suitable name. I hint you do repeated saving regularly, for example, after processing of every half of page.

#### 1. Frame of the article

The following order of arrangement of the elements of the text (frame of the article) is offered to all authors: a Title of the article (title), Author N., the Address (institute, domestic or service address, e-mail or site address), Abstract in English (if possible, in Russian) and the text structured on the paragraphs, sub-paragraphs and under-sub-paragraphs (if necessary). For example, Introduction with the history of the paper subject and formulation of the main task, the author's Method of the solving of the problem, Theory of a method, Implementation of a method, Controversy or interpretation of the author's outcomes and other authors one, Conclusions, References. All paragraphs can be numbered by Arabian, Latin digits with usage of the sign of the paragraph § or without, at the choice of the author.

All 16 styles are designed for usage of the **Times New Roman** font, size 10 points for the body text and page headers, 9 points for the abstract, captions of the tables both figures and list of the references, 8 points for footnotes. The tables, depending on their complexity, can be typed by a size 10, 9 or 8 points. The all styles have been titled by prefix **Conf\_** and followed to prefix the proper name with the evident function.

#### 2. Figures, tables, formulae

The caption to figures and charts must be placed below, to the tables on the top. The style of the figures and tables captions is unified and titled «**Conf\_caption\_Tabl\_Fig**». The tables should be made out, using the menu point «**Table**», fitting the tables to the printable area of the page. If it is required, the broad table can be prepared in the separate file, having arranged the table in the landscape view.

The formulas should be typed only by **Editor of the formulas “Microsoft Equation 3.0”** with following parameters of the font sizes: customary – 10 pt, Large index – 7 pt, small-sized index – 6 pt, Large character – 10 pt, small-sized character – 8 pt. The vector and matrix symbols must be typed by straight bold font, the Greek characters and trigonometrical functions are typed by straight light font, and other variables and functions by inclined light ones. The example of the typing of the formulas group (1) contains these set-up. Open (1) and customize your Editor of the formulas with parameters, at which the group of the formulas (1) was typed.

$$\left. \begin{aligned} \sum_{p=1}^{(1+B)^2} X_{n_k}^k &= 1, & f(\theta, l) &= l \sin 2\theta, \\ \vec{F} &= m\vec{a}. \end{aligned} \right\} \quad (1)$$

The pasted figure must be separated from the text pursuant to its view.

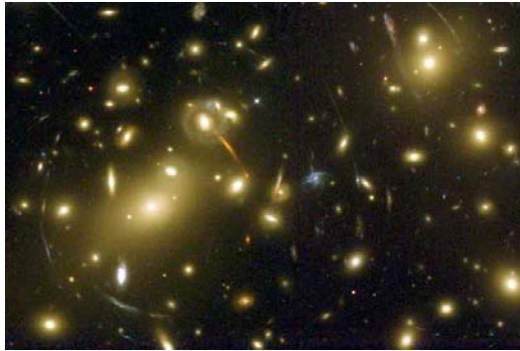


Fig. 1. Abell 2218: A Galaxy Cluster Lens [1].

## 2. Assigning of styles of the text elements

Highlight the title of your paper, select style «**Conf\_TITLE**» from the dialogue style window. Highlight analogously the Author Name text, select «**Conf\_Author**» and so on with all following elements of the text<sup>1</sup>. The footnotes in a template are supposed being indexed by unbroken numbering, but the author can change numbering symbol in accordance with his preferring.

Assign styles «**Conf\_ordinary\_text**» to the indentation or to the group of the indentions integrated in the paragraph. The «**Conf\_Formula**» is signed for the numbered or other separately standing in the line formulas collected in the *Editor of the formulas*. Default set up of the formula tabulation is 1 cm from the left site and 11 cm from the right. Use «Tab» key after selection.

After **Conclusion** the references follow a word «**REFERENCES**» (style «**Conf\_References**»). If in your paper the number of the references is less 10, style of the references is «**Conf\_Refer99**». If the number is equal or greater 10, then the references up to 9 have style «**Conf\_Refer9**», the last ones have style «**Conf\_Refer99**» to arrange numbers on figure positions. Certainly, each reference is typed by the separate paragraph.

### The mailing order for files to Organising committee

Insert numbers of pages: menu **Insert, Numbers of pages, In the bottom of page, Outside, Number on the maiden page, To start with 1**.

Printing for the control you will receive your paper in the view, close to that, which it will have in the Proceedings.

Upon termination of your typing and formation of the text save the file in the RTF format. Attach to it all figures. If necessary, pack all files into one (or in multi volume) archive. Each of volumes must not exceed 1 MB.

At impossibility for the author to satisfy with the present requirements at opening-up of the article it is possible to send it in the arbitrary form with additional charge 3 dollars for page, about what separately to indicate while transferring. Otherwise article will not be published.

## R E F E R E N C E S

1. Andrew Fruchter (STScI) et al., *WFPC2, HST, NASA* <http://antwrp.gsfc.nasa.gov/apod/archivepix.html>  
Organizing committee of conference. October 15, 2001

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<sup>1</sup> It is supposed that the text has been typed without spaces between lines, without doubled spaces between words, and without hyphenations inserted by hands, with correctly placed the end paragraph symbols. The Hyphenation is set up as available.

## REGISTRATION FORM

Title (Prof./Dr./Mr./Ms.), First Name, Last Name (Block letters):
Affiliation:
I wish to present the paper entitled:
I wish to buy the congress proceedings CD after the congress (Yes/No):
I will be accompanied by (person's name):

**My accommodation requirements are (check the box):**

2 rooms VIP-suite:	single bed		double bed		twin beds	
2 rooms luxury suite:	single bed		double bed		twin beds	
2 rooms apartment:	single bed		double bed		twin beds	
Single bed room (1 common bathroom for 2 rooms):						

**I wish to make the necessary payments (check the box):**

in cash on arrival		through the Western Union		by transfer through the bank	
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**Please, specify how much you paid and what for:**

Registration fee:	
Accommodation and meals for _____ days:	
Your paper publication in the congress printed proceedings:	
Paper publication on the Internet:	
Video record of your speech in the congress proceedings on the Internet:	
Other expenses (please, specify):	
Date of payment:	Total:

**In case of the Western Union, please, specify additionally:**

Sender's Name:
Where from (City Name):
Security Code or Password (if any):

**Passport Data for Visa Application:**

Date of Birth:	Place of Birth:
Passport No.:	Citizenship:
Date of Issue:	Date of Expiry:
Location (city name) of the Russian Consulate we are to send the visa for you to get from:	

**My contacts are:**

Mailing address:
Phone(s):
Fax(es):
E-mail(s):

Hereby I grant the right for the organizing committee to publish my paper in the proceedings of the International Congress-2002 "Fundamental Problems of Natural Sciences and Engineering".

Signed: \_\_\_\_\_