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The *IAG Newsletter* is under the editorial responsibility of the *Communication and Outreach Branch* (COB) of the IAG.

It is an open forum and contributors are welcome to send material (preferably in electronic form) to the IAG COB (newsletter@iag-aig.org). These contributions should complement information sent by IAG officials or by IAG symposia organizers (reports and announcements). The *IAG Newsletter* is published monthly. It is available in different formats from the IAG new internet site: <http://www.iag-aig.org>

Each *IAG Newsletter* includes several of the following topics:

- I. news from the Bureau Members
- II. general information
- III. reports of IAG symposia
- IV. reports by commissions, special commissions or study groups
- V. symposia announcements
- VI. book reviews
- VII. fast bibliography

Books for review are the responsibility of:

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General Announcements

ABLOS ToR Approved

The [International Hydrographic Organisation](#) (IHO) and the [International Association of Geodesy](#) (IAG) in September 1994 agreed to form a joint Advisory Board to provide advice and guidance and, where applicable, offer expert interpretation of the hydrographic, geodetic and other technical aspects of the Law of the Sea to the parent organisations, their member states or to other organisations on request. This Board would be known as ABLOS. The terms of reference (ToR) of ABLOS (Advisory Board on the Law of the Sea) has been approved by the IAG EC. You can download a copy of the terms of reference of ABLOS at http://www.gmat.unsw.edu.au/ablos/ablos_tor.pdf.

IAG BUREAU

IAG National Correspondent of France

After the resignation of Dr. Nicolas Florsh as President of the section "Geodesy" of the French "Comité National Français de Géodésie et Géophysique", the IAG National Correspondent of France is from now on Dr. Claude Boucher.

HENRI DUQUENNE
Institut Geographique National

Call for Proposals to Establish and Host the International Altimetry Service Integration Office (IAS-IO)

Dear Colleagues,

herewith we would like to submit the following

Call for Proposals to Establish and Host the International Altimetry Service Integration Office (IAS-IO)

The IAS-IO shall

- provide a platform (and single point of contact) for general information on satellite altimetry and its applications;
- communicate with, and interface to, altimeter mission data providers, centres which process, archive, and analyse altimeter data, and other related services and organizations;
- promote satellite altimetry as a core element of Global Earth Observing Systems (GEOS); and
- help compile and analyse data, and respond to altimeter user requirements.

The rational and detailed description of the Call can be found at

<http://www.dgfi.badw.de/fileadmin/DOC/2007/call4IAS-office.pdf>

The deadline for proposals is **March 1st, 2007**.

Please forward this Call to any colleague or institution which might be interested.

WOLFGANG BOSCH, C.K. SHUM,
PHIL WOODWORTH, AND GARY MITCHUM

ISSI Call 2007 for International Teams in Space Science

Dear Sir/Madam,

Announcement.

The International Space Science Institute (ISSI) in Bern, Switzerland, invites proposals from International Teams to conduct on its premises study activities in Space Science (Earth System sciences, Solar and Solar Terrestrial science, Planetary science, Astrobiology, Astrophysics and Fundamental physics), based on the analysis and evaluation of existing data from several spacecraft and eventual integration with ground observations and theoretical models.

Teams would typically consist of about 8-12 members (some could have a few more and some less, to a minimum of 3) and assemble for two/three one-week meetings over 12-18 months. One Team Leader will take the responsibility for the activity of the Team in all its phases and will ensure the interface with ISSI.

Letter of Intent: February 19, 2007

Deadline for proposals: March 27, 2007

Applications: Detailed information on the format and contents of the proposal, selection procedures, schedule and support from ISSI is to be found on the ISSI site <http://www.issibern.ch/visitors.html>.

Information

For further questions and information please contact me at the addresses below.

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CH-3012 Bern, Switzerland
Tel: +41 31 6314893/96
fax: +41 31 6314897
E-mail: manno@issibern.ch

VITTORIO MANNO
Bern, January 2007

ION GNSS 2007 Student Paper Sponsorship

The Institute of Navigation is pleased to announce sponsorship opportunities for worthy technical papers written by students.

This sponsorship gives student authors an opportunity to attend and present their papers at the world's leading international GNSS conference. ION GNSS 2007 will be held in *Fort Worth, Texas, September 25-28, 2007*.

Both graduate and undergraduate students are encouraged to submit papers on GNSS related research for consideration in this exciting program! Selected students will present their technical paper in the professional session appropriate to the paper's topic.

An electronic version of your final paper in proper form, and the session designation for which session your paper should be considered, must be received by the ION National Office no later than **March 7, 2007**. Further details about this sponsorship can be found on the webpage <http://www.ion.org/meetings/gnss2007students.cfm>.

SOURCE: WWW.ION.ORG

Report of SC1.2 for the next General Assembly of IAG

The report of Commission 1 (Reference Frames), Sub-Commission SC1.2 (Global Reference Frames) is being prepared for the next General Assembly of IAG. Should you have any input to the above report please send it directly to the SC President Claude Boucher.

Meeting Announcements

Abstract Deadline for IUGG General Assembly extended

By general consent, the Perugia General Assembly Local Organizing Committee has agreed to extend the deadline for submission of abstracts and travel grant applications to **28 February** if submitted electronically. The deadline to send abstracts by post is February 10. Persons expecting to participate in the IUGG General Assembly should submit these documents as early as possible so that they can be processed efficiently.

Please note that registrations are now being accepted, the form is available on line. The deadline for early registration and accommodation bookings is **30 April**. That deadline is firm and cannot be changed.

The Website for the Perugia General Assembly: www.iugg2007perugia.it.

Special Events At The General Assembly

In addition to the Scientific Programme, a growing number of special events are being planned. This is a small selection of events known at this time – please check the Assembly web site for updates.

Monday 2 July, 6:30 p.m.

Welcoming Ceremony The Welcoming Ceremony will be held in the historical center of Perugia in the "Sala dei Notari" of the Town Hall. It will be broadcast in the nearby main square on a wide screen. After the celebration, refreshments will be served. At 10:00 p.m. entertainment displaying allegoric topics on the General Assembly will follow.

Friday 13 July, 4 – 5 p.m.

Closing Ceremony. Meet the new IUGG officers for 2007-2011 and receive the invitation for the 2011 (XXV) IUGG General Assembly.

Be also advised that the IUGG business meetings are scheduled as follows:

IUGG Bureau Meetings

Sunday 1 July 9:00 a.m. - 12:00 a.m.

Thursday 5 July 12:00 a.m. - 2:00 p.m.

Tuesday 10 July 12:00 a.m. - 2:00 p.m.

IUGG Executive Committee meetings

Sunday 1 July 2:00 - 6:00 p.m.

Thursday 5 July 4:00 - 6:00 p.m.

Tuesday 10 July 4:00 - 6:00 p.m.

IUGG Council meetings

Wednesday 4 July 2:00 - 6:00 p.m.

Friday 6 July 4:00 - 7:00 p.m.

Wednesday 11 July 4:00 – 7:00 p.m.

SOURCE: THE IUGG ELECTRONIC JOURNAL
SPECIAL ISSUE
VOLUME 7 No. 1A (12 JANUARY 2007)

VLBI meetings of the IVS

April 12 - 15, 2007, Vienna, Austria

- *18th European VLBI for Geodesy and Astrometry (EVGA) Working Meeting, (April 12-13, 2007)*
- *8th IVS Analysis Workshop, (April 14, 2007)*
- *2nd IVS VLBI2010 Working Meeting, (April 15, 2007)*

The meetings are organized by the VLBI Group of the Institute of Geodesy and Geophysics (IGG), Vienna University of Technology. The purpose of the 18th Working Meeting on European VLBI for Geodesy and Astrometry (EVGA) is to exchange results of the most recent geodetic and astrometric VLBI research, information on VLBI stations and discussion of future projects. Colleagues from all over the world working in the various fields of geodetic and astrometric VLBI are kindly invited to attend the meeting and present their activities and results. Deadline for submitting an abstract is February 23, 2007. Late abstracts possible.

Scientists involved in geodetic and astrometric VLBI data analysis are invited to attend the 8th IVS Analysis Workshop for an exchange of technical and conceptual ideas related to generating state-of-the-art IVS products.

URL: <http://vlbi.geod.uni-bonn.de/IVS-AC/workshops/workshop2007/workshop2007.html>

Deadline for registration is March 16, 2007. Detailed information of all three meetings, further information and the registration form can be found on the web page: <http://mars.hg.tuwien.ac.at/~evga/>

LOCAL ORGANIZING COMMITTEE

Harald Schuh, Johannes Boehm, Joerg Wresnik

“Scientific and Fundamental Aspects of the Galileo Programme”

2-4 October 2007, Toulouse, France.

An international colloquium on fundamental aspects and scientific applications of Galileo and GNSS will be held in Toulouse in October 2007. ANAE (Académie Nationale de l’Air et de l’Espace), Bureau des Longitudes, Académie de Marine and ESA (European Space Agency), are the main instigators of this colloquium meant to contribute to the 50th anniversary celebrations of the launch of Sputnik.

The colloquium will address three major issues:

- The fundamental aspects of navigation by satellites and Galileo: geodetic and temporal reference frames, relativistic frame, on board and ground clocks, orbits, radiative environment in orbit, intersatellite links, fundamental aspects of propagation, tropospheric and ionospheric corrections, calibration and validation, relations with international organisations (BIPM, IGS).
- Scientific applications in meteorology, geodesy, geophysics, space physics, oceanography, land surface and ecosystem studies, using either normal or reflected signals, differential measurements, phase measurements, occultations, in real or delayed modes, using receivers placed on the ground, in airplanes or in scientific satellites.
- Scientific developments in physics and dealing with future systems, particularly in testing fundamental laws, in astronomy, in quantum communication, and in developing clocks or experiments based on GNSS.

This colloquium intends to bring together leading members of the European scientific community and their international partners. One of its aims is to propose to Galileo partners means of enhancing the scientific use of Galileo and to contribute to GNSS development based on scientific approaches.

Contact Points:

Organisation Committee: Martine.Segur@anae.fr

Scientific Committee: Clovis.de.Matos@esa.int

SOURCE: [HTTP://WWW.CONGREX.NL/07A06/](http://www.congrex.nl/07A06/)

Symposium on Terrestrial Gravimetry: Static and Mobile Measurements

St. Petersburg, Russia, 20 - 22 August 2007.

The meeting is being organized by Leonid Vitushkin, Chair of the Study Group 2.1 (Comparison of Absolute Gravimeters) of Commission 2. The symposium is officially sponsored by the IAG, co-sponsored by the Institute of Earth Physics of the Russian Academy of Sciences, Moscow; and the BIPM.

The topics of the conference will include the design and investigations of the measuring instruments for the absolute and relative measurement of the gravity field, their applications for terrestrial, shipboard and airborne platforms, and in the metrology of gravimetry. Traditional free-fall, superconducting, and spring-type gravimeters, gradiometers, and new technologies, such as based on atom interferometry, will be especially welcome, as will results and methodologies of static and mobile campaigns, as well as current and future networks. Geophysical interpretation of results and connection with space-borne systems are of limited interest, since the emphasis is on terrestrial (including airborne) instrumentation and methods to extract gravity field measurements for a variety of applications.

More details about the symposium will soon be available on the website of the meeting. Contact person of the Local Organising Committee is Mrs. Margarita Grishina (mgrishina@eprib.ru).

CHRISTOPHER JEKELI AND
LEONID VITUSHKIN

37th Scientific Assembly of the Committee on Space Research and Associated Events – COSPAR 2008

50th Anniversary Assembly

13 - 20 July 2008, Montreal, Canada.

Contact:

COSPAR Secretariat, c/o CNES, 2 place Maurice Quentin, 75039 Paris Cedex 01, France. Tel: +33 1 44 76 75 10, Fax: +33 1 44 76 74 37. E-mail: cospar@cosparhq.cnes.fr
<http://www.cospar2008.org/> or <http://www.cospar-assembly.org>

Scientific Program Chair:

Prof. Jean-Pierre St.-Maurice, University of Saskatchewan, Saskatoon, Canada

Abstract Deadline:

Mid-February 2008

Topics:

Approximately 85 meetings covering the fields of COSPAR Scientific Commissions (SC) and Panels:

- SC A: The Earth's Surface, Meteorology and Climate
- SC B: The Earth-Moon System, Planets, and Small Bodies of the Solar System
- SC C: The Upper Atmospheres of the Earth and Planets Including Reference Atmospheres
- SC D: Space Plasmas in the Solar System, Including Planetary Magnetospheres
- SC E: Research in Astrophysics from Space
- SC F: Life Sciences as Related to Space
- SC G: Materials Sciences in Space
- SC H: Fundamental Physics in Space
- Panel on Satellite Dynamics (PSD)
- Panel on Scientific Ballooning (PSB)
- Panel on Potentially Environmentally Detrimental Activities in Space (PEDAS)
- Panel on Radiation Belt Environment Modelling (PRBEM)

- Panel on Space Weather (PSW)
- Panel on Planetary Protection (PPP)
- Panel on Capacity Building (PCB)
- Panel on Education
- Special events: 50th anniversary lectures, interdisciplinary lectures, space agency round table, session on EGY - Towards an Earth and Space Science Commons

Papers Published in *Advances in Space Research*, a fully refereed journal.

A. JANOFSKY
Associate Director
COSPAR

16th International Workshop on Laser Ranging – Initial Announcement

Poznan Poland, September 22-26, 2008.

The Space Research Centre of the Polish Academy of Sciences has confirmed that the next International Workshop on Laser Ranging will be held in Poznan Poland (15 km from the Borowiec SLR station) on September 22-26, 2008. We ask you to reserve this date in your calendars and plan to attend what will surely be another exciting laser workshop.

CAREY NOLL
Crustal Dynamics Data Information System (CDDIS)

IAG Sponsored Meetings

24th General Assembly of the IUGG

2 - 13 July 2007, Perugia, Italy

The XXIV IUGG General Assembly will be held in Perugia from July 2nd to July 13th 2007. The conference events (sessions, workshops, lectures, symposia) will take place on the campus of the University of Perugia. The poster session and special events will take place in the historical center of the city. The deadline for early bird registration is April 15, 2007, for electronic submission of abstracts: January 31, 2007. The website of the Assembly is <http://www.iugg2007perugia.it/>.

Symposium on Terrestrial Gravimetry: Static and Mobile Measurements

20 - 22 August 2007, St. Petersburg, Russia.

The topics of the conference will include the design and investigations of the measuring instruments for the absolute and relative measurement of the gravity field, their applications for terrestrial, shipboard and airborne platforms, and in the metrology of gravimetry. Traditional free-fall, superconducting, and spring-type gravimeters, gradiometers, and new technologies, such as based on atom interferometry, will be especially welcome, as will results and methodologies of static and mobile campaigns, as well as current and future networks. More details about the symposium will soon be available on the website of the meeting.

“Scientific and Fundamental Aspects of the Galileo Programme”

2-4 October 2007, Toulouse, France

An international colloquium on fundamental aspects and scientific applications of Galileo and GNSS will be held in Toulouse in October 2007. ANAE (Académie Nationale de l’Air et de l’Espace), Bureau des Longitudes, Académie de Marine and ESA (European Space Agency), are the main instigators of this colloquium meant to contribute to the 50th anniversary celebrations of the launch of Sputnik. For more information please visit <http://www.congrex.nl/07A06/>.

IAG Related Meetings

INTERGEO EAST

1-2 March 2007, Sofia, Bulgaria

For the first time the INTERGEO EAST takes place outside the former Yugoslavian region. The trade fair and conference for land management, geoinformatics, building industry and environment will be meeting place for the supranational geo-informatics market from 28 February to 2 March, 2007 in Sofia. Please visit <http://www.intergeo-east.com/> for more information.

GEOS 2007

1-3 March 2007, Prague, Czech Republic

The 2nd International Trade Fair of Geodesy, Cartography, Navigation and Related Informatics will take place in Prague during March 1st to 3rd 2007. Other information dealing with the accompanied conference that will take place during March 1st and 2nd 2007 will be found at the following URL <http://www.igeos.cz/pages/conference.html>.

Munich Satellite Navigation Summit 2007

6 - 8 March 2007, Munich, Germany

The Munich Satellite Navigation Summit 2007 – the fifth one – to be held 6-8 March, 2007 in the famous “Residenz München”, Germany, has been established as the European and international conference with global impact featuring invited high-ranking worldwide speakers from industry, science and governments dealing with the directions of satellite navigation now and in the future. Further information is available on the website <http://www.munich-satellite-navigation-summit.org>.

VLBI meetings of the IVS

12 – 15 April, 2007, Vienna, Austria

- 18th European VLBI for Geodesy and Astrometry (EVGA) Working Meeting, (April 12-13, 2007)
- 8th IVS Analysis Workshop, (April 14, 2007)
- 2nd IVS VLBI2010 Working Meeting, (April 15, 2007)

The meetings are organized by the VLBI Group of the Institute of Geodesy and Geophysics (IGG), Vienna University of Technology. Deadline for registration is March 16, 2007. Detailed information of all three meetings, further information and the registration form can be found on the web page: <http://mars.hg.tuwien.ac.at/~evga/>.

First Asia workshop on superconducting gravimetry

12-16 March 2007, Hsinchu, Taiwan

The promotion of superconducting gravimetry research includes, among others, exchange of gravity data, software, research personnel and inter-comparison of absolute gravimeters. The workshop is open not only to scientists in Asia, but also to scientists in the world. The abstract submission deadline is December 31, 2006. Please visit http://space.cv.nctu.edu.tw/SG/Asia_workshop.html for details.

EGU General Assembly 2007

15-20 April 2007, Vienna, Austria

The EGU General Assembly 2007 will bring together geoscientists from all over Europe and the rest of the world into one meeting covering all disciplines of the Earth, Planetary and Space Sciences. The EGU invites all geoscientists to participate in the assembly, submit contributions to the topical sessions and share their research with colleagues and friends. Please also visit the conference website for further details: <http://meetings.copernicus.org/egu2007/>.

ASMDA 2007

29 May – 1 June, 2007, Chania, Crete, Greece

The 12th International Conference on Applied Stochastic Models and Data Analysis (ASMDA 2007), which will take place in Chania, Crete, Greece (May 29 – June 1, 2007).

The ASMDA Conferences are organized every two years starting 25 years ago with the first ASMDA Symposium organized in Brussels, Belgium (1981). The papers presented are included in special volumes. The best papers appear in special issues of the leading journals of the ASMDA field. Further information at the Conference Web site: <http://www.asmda.com>.

WMSCI 2007

8-11 July 2007, Orlando, Florida, USA

The 11th World Multi-Conference on Systemics, Cybernetics and Informatics (WMSCI 2007) will take place in Orlando, Florida, USA, from July 8-11, 2007. WMSCI 2007 is an international forum for scientists and engineers, researchers and consultants, theoreticians and practitioners in the fields of Systemics, Cybernetics and Informatics. The topic of the conference is related to the area of Geographical Information Systems. March 1st is the new deadline for papers/abstracts submissions and Invited Sessions Proposals for WMSCI 2007. Visit the conference homepage at <http://www.iiis-cyber.org/wmsci2007> for further details.

CITSA 2007

12-15 July 2007, Orlando, Florida, USA

The 4th International Conference on Cybernetics and Information Technologies, Systems and Applications: CITSA 2007 jointly with the 5th International Conference on Computing, Communications and Control Technologies: CCCT 2007 will take place in Orlando, Florida, USA, from July 12-15, 2007. CITSA '07 is an International Multi-Conference being organized with the purpose of providing researchers, practitioners, developers, consultants, and end-users of computerized, communications and/or control systems and technologies, as well as their industrial and social applications in the private and the public sectors, an opportunity to join in a common place sharing experience and knowledge. The conference homepage is at <http://www.info-cyber.org/citsa2007>.

4th AOGS Assembly

30 July - 4 August 2007, Bangkok, Thailand

Having hosted its Scientific Assemblies annually since 2004, Asia Oceania Geosciences Society (AOGS) Assembly has become an ideal forum for addressing to and interacting with geoscientists from all over Asia and Oceania as well as those from U.S. and Europe. There will also be a special GPS/VLBI/SLR Networks and Geosciences Applications session in AOGS Assembly 2007. The deadline of submitting abstract is 15 February, 2007. For details, please visit <http://www.asiaoceania.org/aogs2007/>.

ION GNSS 2007

24-25 September 2007, Fort Worth, Texas, USA

The 20th International Technical Meeting of the Satellite Division of the Institute of Navigation will be held at Fort Worth, Texas, USA. Abstracts should be submitted electronically via ION's Web site no later than March 7, 2007. Program information and further details are found on the webpage of the meeting <http://www.ion.org/meetings/#gnss>.

37th Scientific Assembly of the Committee on Space Research and Associated Events – COSPAR 2008

50th Anniversary Assembly

13 - 20 July 2008, Montreal, Canada.

The 50th Anniversary Assembly COSPAR 2008 will be held in Montreal, Canada. For more information about this particular event please visit the Assembly website at <http://www.cospar2008.org/>.

16th International Workshop on Laser Ranging

22-26 September 2008, Poznan, Poland

The next International Workshop on Laser Ranging will be held in Poznan Poland (15 km from the Borowiec SLR station) on September 22-26, 2008.

IAG Sister Societies' General Assemblies

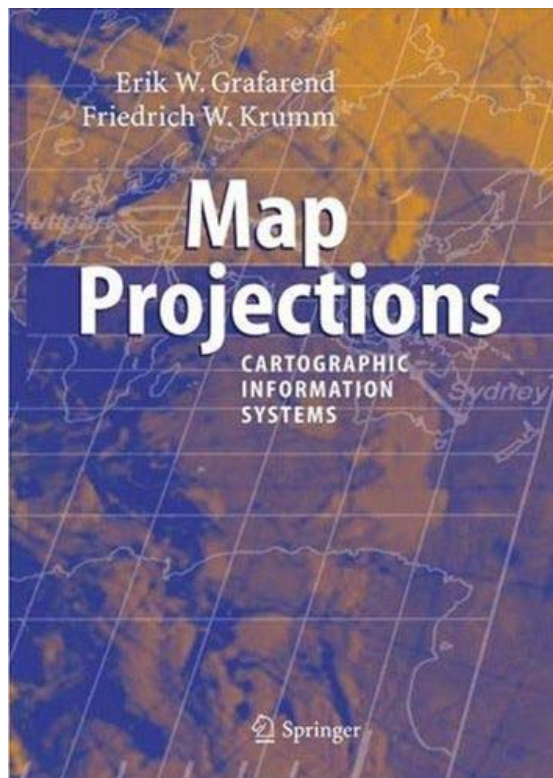
XIIIth ISM Congress

September 24-28, 2007, Budapest, Hungary

The XIIIth Congress of International Society for Mine Surveying (ISM) will be held at Budapest University of Technology and Economics, Budapest, Hungary. The preliminary program is available from the ISM website: <http://www.ism.rwth-aachen.de>.

Book Review

E. W. Grafarend and F. W. Krumm: Map Projections



Title: Map Projections: Cartographic Information Systems
Authors: Erik W. Grafarend and Friedrich W. Krumm
Publisher: Springer Verlag – Berlin Heidelberg New York
ISBN-10 3-540-36701-2
ISBN-13 978-3-540-36701-7
Year: 2006
Price: EUR 169.00
Pages: XVIII, 714 p., 230 illus.
Details: Hardcover

This is a most remarkable book. It is probably the most modern, comprehensive and rigorous treatment of the mathematical theory of map projections up to now. Geodesists are usually given a short course, but the subject is much more comprehensive and requires a treatment of its own. The subject is seen here as a part of cartographic (geographic) information systems, as the subtitle indicates.

When I was asked to review this book, I took an afternoon to get a first impression. I was so fascinated, however, that I could not stop reading until late night and until I had gone through all the

700 pages of the book. This does not mean that I understood very much, but the challenge provided the energy necessary for a more detailed study.

What struck me first, was the matter-of-fact way in which modern differential geometry is presupposed from the very beginning: Ricci calculus and symbolic notation of manifolds, coordinates as charts mapping open sets onto open sets, commutative diagrams, injective and bijective mappings, push-forward and pull-back tangential maps, exterior differential forms, holonomic and anholonomic forms, Frobenius integrability, etc. are presupposed as working tools, which are standard in modern mathematics but may not be so familiar to the geodesist. The modern treatment of surface coordinates as mapping open sets on a surface onto open sets in the plane (itself a kind of mapping en miniature) is easy to confuse with a full-fledged map projection in the sense of the book. Here, the figures on page 3 are clarifying. This is perhaps the most difficult concept to the beginner. A course on modern differential geometry thus is an indispensable prerequisite.

In the first part of the book, the general concepts required are introduced gradually, using some main map projections as examples. The overall mathematical structure is simultaneous diagonalization of two symmetric matrices, leading to the familiar Tissot indicatrix but permitting a much more general mathematical treatment of map distortions.

Just to give one example: the formidable Frobenius matrix links the local rectangular x,y coordinate system given by the axes of the Tissot ellipse to the tangent of the two global surface coordinates (e.g., geographic latitude φ and longitude λ on the sphere or on the ellipsoid). The local system x,y provides, mathematically speaking, “anholonomic (non-integrable) differentials”, whereas $d\varphi$ and $d\lambda$ are “holonomic” differentials of coordinates φ and λ . All this is introduced on p. 18. Another beautiful example is the treatment of Gaussian curvature on p. 81.

As measures of deformation, the Cauchy-Green and the Euler-Lagrange deformation tensors are introduced, in addition to the classical Tissot indicatrix. Distance, angular and area distortions are treated. Cross-connections to three-dimensional elastic deformation theory are duly emphasized. There is a nice historic review of various deformation measures on p. 38. Additional mathematical and cartographic details are found as Appendices.

It is strongly recommended that the student familiarizes himself or herself with pp. 1 to 163 before proceeding further. There are plenty of examples given which the student should work out with pencil and paper. After that, the book is not so difficult to read, even selectively, according the particular map projections of interest to the reader.

After having overcome the notational problems, one enjoys the compact, elegant and concise presentation. The formulas are arranged in a very clear and systematic way, in a table form which leaves plenty of white space for necessary relaxation and easy comparison, and they are fully worked-out examples, justifying pages consisting of formulas only. Many things are taken for granted, and motivations and explanations are sometimes left to the reader to find. This in itself is a challenge for the intelligent reader. The concise text is frequently given in the form of questions and answers, which are didactically helpful, as well as 230 instructive figures.

Conformal mapping, most familiar to the geodesist, are treated with appropriate detail, even reproducing an elegant but little-known note by Leon Lichtenstein. The classical topics such as the Mercator, the stereographic projections, and the geodetic Gauss-Krueger (transverse Mercator) are treated in great detail, including datum problems. Projection surfaces are mainly the sphere and the ellipsoid of revolution, but even the tri-axial ellipsoid is briefly considered.

It should be noted that conformal mappings in higher-dimensional spaces and Einstein’s General Theory of Relativity are readily obtained as generalizations (p. 53).

There are a huge number of geographic map projections bearing names such as Albers, Bonne, Gnomonic, Hammer, Lambert, Mollweide, Postel, Sanson, Snyder, Soldner, Stab-Werner and many others. These mappings are frequently selected by minimizing distortions defined in some way in order to get the best map for a given practical purpose. Map projections are a flourishing subject, even and especially in the GPS navigation and computer age. Great care is taken to select appropriate map projection. The Hotine Oblique Mercator Projection, as applied in Landsat, allows mapping from satellites with minimal distortion.

Several map projections treated in the book are due to the authors themselves.

The vastness of the problems of map projections is documented in the book by 1387 (!) references. Every geodesist and cartographer will find his or her favourite projection treated theoretically and numerically in a satisfactory way. The book is really a giant encyclopaedia of map projections.

Difficult? In the beginning, yes, but I wish I had had this book when I was a student. The beautifully done book is indispensable. We should be very grateful to both authors for their magnum opus.

Graz, February 2007

HELMUT MORITZ

Obituary

Karel Hamal (1932 – 2007)



Professor, Czech Technical University in Prague

Karel Hamal, Professor of the Czech Technical University in Prague, passed away suddenly, Thursday, February 8, 2006, at the age of nearly 75.

Karel Hamal joined the Czech Technical University in Prague in 1962 after spending some time working for the Tesla radio communication company. His primary interests at that time were in microwaves and radar. At the university he founded the study of a newly emerging technology – solid state lasers. He established a world class laboratory and formed a team of international collaborators. This lab became world famous both for its scientific and educational results.

In the nineteen seventies and eighties he formed international ties between the Czech Technical University and scientists and labs in other countries and he headed the international network of satellite laser ranging stations under the roof of INTERKOSMOS. Satellite laser ranging was his main interest for more than three decades. He was one of the initiators of the international workshops on laser ranging and was involved in the organization of all the workshops for 35 years.

Karel Hamal began his satellite laser ranging experiments at Skalka station, south-east of Prague. Very soon the results of his group reached the forefront of research in this field. Interdisciplinary, this was of great importance for geodetic science in particular. New problems and possibilities, which naturally emerged together with satellite laser ranging brought strong driving impulses for geodesy and its applications in geosciences and other disciplines.

Within the International Association of Geodesy the research and scientific activities of Karel Hamal and his group resulted in a very fruitful cooperation with the International Laser Ranging Service and gained a great recognition. The International Laser Ranging Service represented by its Central Bureau awarded Karel Hamal with the “SLR Pioneer Award” in 2002, for his longstanding contributions to the subject, in particular, for his early technical leadership in developing and deploying the INTERKOSMOS systems, which helped to create a truly global satellite laser ranging network. The Czech National Committee of Geodesy and Geophysics highly respects the work of Karel Hamal.

Recently Karel Hamal was involved in research and development of solid state photon counters and their applications in laser ranging and space science, in millimeter precision laser ranging and new trends in information technology. Two deep space probes carried his laser ranging and photon counting devices toward the planet Mars late nineties, another two space missions are under completion in Europe and in China to be launched on Earth orbit soon.

Along with the science, Karel Hamal educated several generations of students in physics, ranging from MS students, PhDs up to research scientists. In the early nineties, he was the engine behind the reorganization of the education on the University.

The passing of Karel Hamal is a significant loss for the University and to the world scientific community. Education and science are losing an expert and unparalleled organizer, the students are losing an excellent teacher and his colleagues are losing a man, who always erupted with new ideas and human energy.

We all will miss him.

IVAN PROCHAZKA

Fast Bibliography

The fast bibliography consists of a listing of papers relevant to Geodesy that has been collected by the IAG Bibliographic Service (IBS) since previous issue of the fast bibliography (IAG Newsletter August 2006 and Journal of Geodesy 80/6). The IBS is based on the literary data bank GEOPHOKA, which is maintained by BKG (Budensamt für Kartographie und Geodäsie) at the Branch Office Leipzig, Leipzig Zentrale technisch – wissenschaftliche Angelegenheiten, Bibliothek, Karl-Rothe Strasse 10-14, 0415 Leipzig, Germany. The IBS can be reached at the following Internet address: <http://www.leipzig.ifag.de>. The bibliographic services are furthermore reachable through the homepage of IAG: <http://www.iag-aig.org>.

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