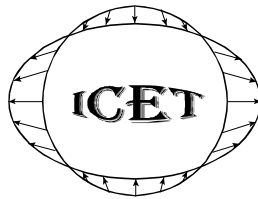


MAREES TERRESTRES
BULLETIN D'INFORMATIONS

INTERNATIONAL CENTER FOR EARTH TIDES
CENTRE INTERNATIONAL DES MAREES TERRESTRES



International Association of Geodesy - International Gravity Field Service
(IAG – IGFS)

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All the issues of the BIM can be downloaded from bim-icet.org

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BIM 148

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SPECIAL ISSUE
17th International Symposium on Earth Tides
“Understand the Earth”
15-19 April, 2013
Warsaw, Poland

MIERCZYK Z.....	
Rector Military University of Technology Welcome Address.....	11907
DUCARME B.	
Citation for the Paul Melchior Medal 2013 – Prof. Houtze Hsu.....	11909
BARRIOT J.-P.	
Minutes of the Directing Board of ICET meeting.....	11913
PAGIATAKIS S., BOGUSZ J.	
Resolutions ETS2013.....	11915
ETS2013 SUMMARY and LIST OF PARTICIPANTS.....	11917
LIST OF PREVIOUS EARTH TIDES MEETINGS.....	11921

SCIENTIFIC PAPERS

VIRTANEN H., BILKER-KOIVULA M., MÄKINEN J., NÄRÄNEN J., RAJA-HALLI A., RUOTSALAINEN H. Comparison between measurements with the superconducting gravimeter T020 and the absolute gravimeter FG5-221 at Metsähovi, Finland in 2003-2012.....	11923
CADICHEANU N., VAN RUYMBEKE M., PING ZHU..... On the variability of the coupling between some Earth tides periodicities and earthquake triggering from three important seismic nest regions on Earth.....	11929
PING ZHU, VAN RUYMBEKE M., QUINIF Y., CAMELBEECK TH., MEUS PH. Hydrological and tectonic strain forces measured from a karstic cave using extensometers	11945
VAN RUYMBEKE M., WIELANT F., NOËL J.-P., DUMONT PH. Calibration of pendulum by sinusoidal torque induced with the needles of a watch turning in the gravity field of the Earth.....	11961
VOLKOV V.A., DUBROV M.N. Geodynamical observations using spatially distributed gravimeters, tiltmeters, and laser strainmeters...11971	

ADDITIONAL SCIENTIFIC PAPER

ZHANG MIAOMIAO, XU JIANQIAO, SUN HEPING, SHEN WENBIN, CHEN XIAODONG.....	
Comparison of noise levels of the new <i>i</i> Grav-007 superconducting gravimeter and the SG-065 superconducting gravimeter in Wuhan (China).....	11987

Rector Military University of Technology Welcome Address

Dear participants of the 17th International Symposium on Earth Tides,

I would like to warmly welcome you to Poland, to the Military University of Technology.

The framework for your discussion will be “Understand the Earth”. Although there are many influential factors, the understanding of the Earth system with its major processes and its trends is one of the requirements for a sustainable development. Earth observations are not only necessary for the scientific understandings, they are fundamental for most societal activities ranging from disaster prevention and mitigation, over the provision of resources such as energy, water and food, the understanding of climate change, the protection of the biosphere, the environment, and human health, to the building and management of a prosperous and sustainable global society. Geodesy is fundamental in meeting this global challenge: geodesy provides the foundation on which all Earth observation systems are built. In this function, geodesy provides comprehensive observations of changes in the Earth’s shape, gravity field and rotation.

From the other side that knowledge can be used as a tool to help oneself lead a better life. Education is crucial to each society’s success and universities have a vital role to play in this regard. Higher education generates, transfers and applies the knowledge required for development to take place. This is very important task in the Information Age with its knowledge-based economy.

The 17th Symposium is held at the Military University of Technology, so please let me briefly introduce the University to you.

I would like to emphasize that since the opening for the civil students, several study programmes have been developed, including geodesy with the issues related to the geodynamics and physical geodesy.

We realise that to take advantage of the full potential of higher education we need critical knowledge partnership for development. This Symposium is a good opportunity to exchange experiences and form long term relationships and collaboration between our various institutions and countries represented here. I want to encourage all participants to make the most of this opportunity.

I wish you a pleasant stay in Warsaw and very fruitful deliberations at the Symposium.

Gen. Prof. Zygmunt Mierczyk
Rector of the Military University of Technology

Warsaw, April 17, 2013

Earth Tides Commission Medal

Ladies and Gentlemen,
Dear Colleagues and Friends,

It is for me an honour and a pleasure to introduce Professor Hsu Hou-Tse. He is not only an eminent scientist, member of the prestigious Chinese Academy of Sciences, but also as he likes to say himself an “old friend”. It is always a pleasure indeed to meet him and enjoy his sense of humor. He has the remarkable quality of inducing his audience to be happy in the pursuit of science and glad to be talking about it. In a few words he is able to express clearly the conclusions of a long and sometimes tedious scientific discussion.

Prof. Hsu started his scientific life in physical geodesy under the guidance of Professor Fang Jun in the middle of the 1950's and, for more than 50 years now, he was exploring all the aspects of this rich subject that led him to travel all around the world and tomorrow, at least mentally, to the planet Mars. With more than 200 scientific publications and several books Prof. Hsu is certainly one leading scientist of our tidal community.

Prof Hsu Hou-Tse started international cooperation for Earth Tides studies in continental China as early as 1978, when he took part to the scientific mission that the Chinese Academy of Sciences and the State Seismological Bureau sent to the Royal Observatory of Belgium under the direction of Prof. Fang Jun. Between 1979 and 1982 he was personally involved in the installation of the 8 stations of the Earth tidal profile developed across China by Prof Paul Melchior and his staff. I had personally the privilege to install with him stations not only in Wuhan but also in Canton and in Wulumuchi. This project was only a starting point for his activity in Earth tides research. He purchased modern instrumentation to supersede the old ASKANIA gravimeters available in China at that time, starting with LaCoste & Romberg model G and ET meters. He continued tidal gravity observations in China and he has successfully operated a first Superconducting gravimeter in Wuhan since 1985. This early instrument was renewed and a new permanent station, installed in 1997 for the Global Geodynamics Project, is still in operation.

Under his leadership the Institute of Geodesy and Geophysics of the Chinese Academy of Sciences became a Centre for Earth Tidal Research in China. Prof Hsu sent many young scientists abroad to create a scientific task force able to develop theoretical and experimental research in Earth gravity tides, with applications in oceanic loading, atmospheric pressure, Earth's free oscillations and Free Core Nutation.

As president of the IAG Commission on Earth Tides, he worked for the international organization of the Earth's Tidal research during a period of 8 years. The Global Geodynamics Project was launched in 1997 during his mandate.

Besides his commitment to Earth Tides community as scientist, Director of the Institute of Geodesy and Geophysics of the Chinese Academy of Sciences and former President of the Earth Tides Commission, Prof Hsu was a personal friend of Paul Melchior, who would certainly appreciate that the first medal awarded under his name is granted to Prof. Hsu.

Bernard Ducarme,
Georges Lemaître Centre for Earth and Climate Research,
Earth and Life Institute, Catholic University of Louvain.

International Association of Geodesy
Commission 3 “Earth Rotation and Geodynamics”
Sub-Commission 3.1 „Earth Tides and Geodynamics”
awards

**EARTH TIDES
COMMISSION MEDAL**

to

Professor Houtze Hsu

in recognition of his outstanding service and leadership
in Geodesy and Earth Tides.

This presentation is made the 17th day of April, 2013
at the

17th International Symposium on Earth Tides in Warsaw, Poland.

Spiros Pagiatakis
Chair

Janusz Bogusz
Co-Chair

Earth Tides Commission Medal Diploma



Earth Tides Commission Medal

Warsaw, April 16, 2013

Minutes of the Directing Board of International Centre for Earth Tides

Present at the meeting: Heping Sun (representing Harald Schuh), Spiros Pagiatakis, Jean-Pierre Barriot, David Crossley, Bernard Ducarme and Walter Zuern (invited).

After some discussion, the Directing Board of ICET unanimously agreed on the following points:

1. GGP matters:
 - a. concerning the end-user products of GGP, the exact data flows and data formats must be precisely defined by a group of experts designed by the Directing Board of ICET. A proposal should be submitted to Subcommission 3.1 at the next IAG meeting in Postdam in September 2013.
 - b. a centralized data center seems to be the best way to guarantee a uniform data editing for GGP.
 - c. ICET will continue its support to GGP, until at least the next IUGG meeting, including the timely delivery of one-minute validated data.
 - d. in addition, ICET will provide the end-user a track of all the corrections applied to the raw GGP data, from the beginning of all GGP time series.
2. ICET matters:
 - a. ICET will continue to publish on a yearly basis the BIM, that will be available online on both the GGP and ICET websites. In particular, some of the papers from the 18th Int. Symposium on Earth Tides will be published on the BIM (on a special issue if we have a sufficient number of papers).
 - b. As the spectrum of instruments dedicated to the study of Earth Tides is much larger than the supraconducting gravimeter, it seems better to have two separate services under the umbrella of IGFS. About half of the communications at the 18th Int. Symposium on Earth Tides reporting instrumental results were dedicated to studies outside the scope of GGP.

It is to be noted that many of these points have yet to be discussed and finalized by ICET and GGP. In any case, more detailed proposals from ICET and GGP will be presented at the IAG meeting in Postdam in September 2013. A Directing Board of ICET will take place during this event.

J.-P. Barriot, Director of ICET

Resolutions – ETS2013

- 1) The participants of the 17th International Symposium on Earth Tides taking into consideration
 - a. the Terms of Reference and Objectives of the IAG SC-3.1
 - b. the increased activities in multidisciplinary research in geodynamics, and
 - c. the widening frequency band and extension of spatial scales of the geodynamic phenomena that can be captured by a large variety of sensors and observing systems,

Recommend that

- a. the name of the SC-3.1 be changed to “Geodynamics and Earth Tides” to better reflect the nature of the research activities,
 - b. the name of the “International Symposium on Earth Tides” be changed accordingly to “International Symposium on Geodynamics and Earth Tides”,
 - c. the international symposia under the new name be numbered consecutively from the previous conferences to ensure continuation,
 - d. the above changes be effective after the next IUGG General Assembly in 2015, in compliance with the IAG status and bylaws.
- 2) The participants of the 17th International Symposium on Earth Tides recognizing
 - a. the significant and continued contribution of GGP to geodynamics research,
 - b. the increased demand for GGP data and relevant products for multidisciplinary research, engineering and operational applications and experimentation,
 - c. the increased demand for data and relevant products observed by a wide range of sensors including, but not limited to, tilt meters, strain-meters, and spring gravimeters, for multidisciplinary research, engineering and operational applications and experimentation, and
 - d. the need to provide the users with the above data and data products in complete, uniform, authoritative and timely fashion

Recommend that

- a. a new IAG Service be created under the umbrella of IGFS,
 - b. the new service be named “GGP- ICET Service”,
 - c. the new service include two components namely “Global Geodynamics Project - GGP” and “International Centre of Earth Tides - ICET”.

Furthermore, they recommend that

- d. a working group be formed immediately to carry out a thorough analysis of the needs of, and prepare a proposal for the creation of the new service, its terms of reference, goals and objectives and structure,
 - e. ICET continue to operate as usual, provide support to GGP, make available to the end-user a track of all corrections applied to the GGP data, and publish BIM.
- 3) The participants of the 17th International Symposium on Earth Tides recognizing the importance of dissemination of the scientific contributions of the symposium recommend that:
 - a. a number of manuscripts be submitted to the Journal of Geodynamics for publication for a future Special Edition (SI). The submissions must be within the scope of Journal of Geodynamics and go through the standard peer-review process. The limit will be set at 25 published papers. The Editor-in-chief will have the final say regarding the acceptance/rejection of manuscripts submitted to Journal of Geodynamics.
 - b. papers with technical and/or instrumentation development and calibration content will be published in BIM.

- 4) The delegates of the 17th International Symposium on Earth Tides accept the proposal by Prof. Carla Braitenberg to hold the 18th International Symposium on Earth Tides in Trieste, Italy, in 2016.
- 5) The participants of the 17th International Symposium on Earth Tides, the IAG Commission 3, the IAG Sub-commission 3.1 and the Global Geodynamics Project thank the Military University of Technology (MUT), and the sponsors of the symposium, namely the International Association of Geodesy, the Rector of MUT and the Committee for Geodesy, Polish Academy of Sciences for hosting and supporting this event. Moreover, the delegates thank the Local Organising Committee (LOC), Janusz Bogusz (Head of LOC), Marcin Gałuszkiewicz, Andrzej Araszkiewicz, Katarzyna Kamińska, Anna Kłos, Lidia Rachoń and Karolina Szafranek for their warm welcome and flawless organisation that made the 17th International Symposium on Earth Tides a great scientific success.

Spiros Pagiatakis, Chair of the Sub-Commission 3.1

Janusz Bogusz, Co-Chair of the Sub-Commission 3.1

ETS2013 Summary

73 participant from 3 different continents, 7 thematic sessions with 55 oral and 32 poster presentations.

List of participants

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ETS2013 Group Photo

List of Previous Earth Tides Meetings

1	24-26.04.1957	Brussels, Belgium
2	21-26.07.1958	Munich, Germany
3	06-11.07.1959	Trieste, Italy
4	05-10.06.1961	Brussels, Belgium
5	01-06.06.1964	Brussels, Belgium
6	15-20.09.1969	Strasbourg, France
7	10-14.09.1973	Sopron, Hungary
8	19-24.09.1977	Bonn, Germany
9	17-22.08.1981	New York, USA
10	23-27.09.1985	Madrid, Spain
11	31.07-5.08.1989	Helsinki, Finland
12	04-07.08.1993	Beijing, China
13	22-25.07.1997	Brussels, Belgium
14	28.08-1.09.2000	Mizusawa, Japan
15	02-06.08.2004	Ottawa, Canada
16	01-05.09.2008	Jena, Germany
17	15-18.04.2013	Warsaw, Poland

