

Perugia, Italy July 2-13, 2007



IAMAS

INTERNATIONAL ASSOCIATION OF METEOROLOGY
AND ATMOSPHERIC SCIENCES

ASSOCIATION SYMPOSIA AND WORKSHOPS

Organized by

Perugia, Italy July 2-13, 2007



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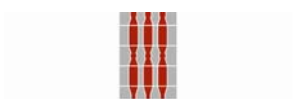
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| Roland List | <i>Secretary-General IAMAS International Association of Meteorology and Atmospheric Sciences</i> | <i>Canada</i> |
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| Peter Suhadolc | <i>Secretary-General IASPEI International Association of Seismology and Physics of the Earth's Interior</i> | <i>Italy</i> |
| Steve McNutt | <i>Secretary-General IAVCEI International Association of Volcanology and Chemistry of the Earth's Interior</i> | <i>Usa</i> |



Abbreviations

| | |
|-------------------|--|
| IAG | International Association of Geodesy |
| IAGA | International Association of Geomagnetism and Aeronomy |
| IAHS | International Association of Hydrological Sciences |
| IAMAS | International Association of Meteorology and Atmospheric Sciences |
| IAPSO | International Association for the Physical Sciences of the Oceans |
| IASPEI | International Association of Seismology and Physics of the Earth's Interior |
| IAVCEI | International Association of Volcanology and Chemistry of the Earth's Interior |
| CLiC | Climate and Cryosphere |
| Ev-K2-CNR | Everest-K2 CNR Committee |
| GEWEX | Global Energy and Water Experiment |
| HKH-FRIEND | Hindu Kush-Himalayan Flow Regimes from International Experimental and Network Data |
| IABO | International Association for Biological Oceanography |
| IACS | International Association of Cryospheric Sciences |
| ICACGP | International Commission on Atmospheric Chemistry and Global Pollution |
| ICASVR | International Commission on Atmosphere-Soil-Vegetation Relations |
| ICCE | International Commission on Continental Erosion |
| ICCL | International Commission on Climate |
| ICCLAS | International Commission on the Coupled Land-Atmosphere System |
| ICCP | International Commission on Clouds and Precipitation |
| ICDM | International Commission on Dynamic Meteorology |
| ICGW | International Commission on Groundwater |
| ICIMOD | International Center for Integrated Mountain Development |
| ICMA | International Commission on the Middle Atmosphere |
| ICRS | International Celestial Reference System |
| ICSIH | International Commission on Snow and Ice Hydrology |
| ICSW | International Commission on Surface Water |
| ICT | International Commission on Trac |
| ICWQ | International Commission on Water Quality |
| ICWRS | International Commission on Water Resources Systems |
| IGAC | International Global Atmospheric Chemistry |
| IGS | International Glaciological Society |
| ILP | International Lithosphere Program |
| INQUA | International Union for Quaternary Research |
| ION | International Ocean Network |

| | |
|---------------|---|
| IRC | International Radiation Commission |
| PUB | Prediction in Ungauged Basins |
| SCAR | Scientific Committee on Antarctic Research |
| SEDI | Study of the Earth's Deep Interior |
| SPARC | Stratospheric Processes and their Role in Climate |
| UCCS | Union Commission for the Cryospheric Sciences |
| UNESCO | United Nation Educational, Scientific and Cultural Organization |
| UNITAR | United Nations Institute for Training and Research |
| WMO | World Meteorological Organization |

Session code naming

The first letter of the session codes indicates whether the session is a Union, a Joint Interassociation or a single Association sponsored event, the second letter indicates the type of event: Symposium (S) or Workshop (W). For Joint events, the second letter indicates the Lead Association (with the abbreviations listed below) and the third indicates whether a session is a Symposium (S) or a Workshop (W). In some cases (namely IAGA, IAHS) Association session codes have an extra codification referring to a specific Theme or Division.

| | |
|----------|--------|
| U | UNION |
| J | JOINT |
| G | IAG |
| A | IAGA |
| H | IAHS |
| M | IAMAS |
| P | IAPSO |
| S | IASPEI |
| V | IAVCEI |

Some examples:

US002

is a **Union Symposium**; **JGW001** is a **Joint IAG Workshop** with IAG as the Lead Association;

MS003

is an Association (IAMAS) **Symposium**. **AS III 020** is an Association (IAGA) **Symposium** sponsored by its **III** Division.

MS002**Symposium****(4896 - 4909)****Convener** : Dr. Keith Alverson, Dr. George Kiladis

Global Observing Systems, Past, Present and Future (ICCL)

MS003**Symposium****(4910 - 5053)****Convener** : Dr. George Isaac, Prof. Teruyuki Nakajima

Aerosols, Radiation and Clouds (IRC, ICCP, ICACGP)

MS004**Symposium****(5054 - 5144)****Convener** : Prof. George Kallos**Co-Convener** : Dr. Alcide Di Sarra, Prof. Charlie Zender

Mineral Dust Cycle and its Impact on Clouds and Radiation (ICCP)

MS005**Symposium****(5145 - 5166)****Convener** : Dr. Gabor Vali**Co-Convener** : Dr. Cindy Morris

Biological Ice Nucleators in the Atmosphere at the Crossroads of Physics and Biology (IAMAS/ICCP)

MS006**Symposium****(5167 - 5195)****Convener** : Dr. Paul Field, Dr. Alexei Korolev, Dr. George Isaac

Ice Microphysics: Theory and Measurement (ICCP) merged with MW001

MS007**Symposium****(5196 - 5228)****Convener** : Dr. Eyal Heifetz**Co-Convener** : Dr. Nili Harnik

Theoretical advances in atmospheric dynamics (ICDM)

MS008**Symposium****(5229 - 5269)****Convener** : Dr. Craig Bishop

Ensembles and Probabilistic Forecasting (ICDM)

MS009**Symposium****(5270 - 5296)****Convener** : Dr. Istvan Szunyogh

Dynamics and Predictability of Severe Weather Events (ICDM)

MS010**Symposium****(5297 - 5359)****Convener** : Dr. George Kiladis

Dynamics of Convectively-Coupled Equatorial Waves and the Madden-Julian Oscillation (ICDM)

MS011**Symposium****(5360 - 5385)****Convener** : Prof. Carlos Mechoso
Co-Convener : Prof. Richard Grotjahn

The Dynamics of Eastern Tropical Oceans and Subtropical Highs (ICDM)

MS012**Symposium****(5386 - 5396)****Convener** : Dr. Parvatha Suntharalingam, Dr. Dylan Jones

Impacts of Biosphere-Atmosphere Interaction on Atmospheric Composition from Synoptic to Annual and Decadal Timescales

MS013**Symposium****(5397 - 5433)****Convener** : Dr. Kenneth Gage

Topographic Effects on Weather and Climate (ICDM)

MS014 **Symposium** **(5434 - 5457)****Convener** : Prof. Meinrat O. Andreae

Interactions of Land Cover and Climate (ICCL)

MS015 **Symposium** **(5458 - 5518)****Convener** : Dr. Lisa Alexander**Co-Convener** : Dr. Xuebin Zhang

Extreme Weather and Climate Events: Past Occurrences and Future Likelihoods (ICCL)

MS016 **Symposium** **(5519 - 5588)****Convener** : Dr. Filippo Giorgi

Downscaling to Local and Regional Scales (ICCL)

MS017 **Symposium** **(5589 - 5613)****Convener** : Dr. Natalia Andronova

Climate Sensitivity and Climate Feedbacks: Progress and Remaining Questions (ICCL)

MS018 **Symposium** **(5614 - 5639)****Convener** : Prof. Marvin Geller

The Role of the Stratosphere in the Climate System (ICMA, IRC, ICCL)

MS019 **Symposium** **(5640 - 5729)****Convener** : Prof. Kevin Hamilton

Middle Atmosphere Science (ICMA)

MS020

Symposium

(5730 - 5768)

Convener : Prof. Werner Schmutz

Solar Activity and its Influences on the Earth's Weather and Climate (IRC)



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(M) - IAMAS - *International Association of Meteorology and Atmospheric Sciences*

MS002

4896 - 4909

Symposium

Global Observing Systems, Past, Present and Future (ICCL)

Convener : Dr. Keith Alverson, Dr. George Kiladis

This symposium is for submitted contributions addressing the topic of the Union Symposium "U03 on Global Observing Systems, Past, Present and Future". It will concentrate on the societal benefits of Earth observations in the context of the many global programs contributing to the Global Earth Observing System of Systems (GEOSS), including the Global Climate, Terrestrial and Ocean Observing systems (GCOS, GTOS, GOOS) and the Integrated Global Observing Strategy (IGOS) Partnership. Presentations on any aspects of Earth System Observations, but particularly those clearly resulting in societal benefits, are welcome

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(M) - IAMAS - *International Association of Meteorology and Atmospheric Sciences*

MS003

Poster presentation

4996

Empirical model for estimation of diffuse solar radiation for the Southern Region of Brazil

Author : Mr. Marcus Guedes

Southern Regional Space Research Center CRS-INPE IAMAS

Co-Author: Nelson Jorge Schuch, Fernando Ramos Martins, Daniel Vinicius Fiorin, Marcelo Pizutti Pes, Diogo Alessandro Arsego, Rafael Jonas Righi Batista, Ricardo Andr Guarnieri, Enio Bueno Pereira

The study of incident solar radiation in the terrestrial surface has direct implications in meteorology, especially in the studies on the climate and its changes, affecting directly the agro business, as well as the efficiency of architectural projects and impacting several other sectors of the human knowledge and activities. Forecasting of incident solar radiation have a vital importance in the operation of hybrid systems for power generation, allowing an efficient management of power plants and the optimized use of solar energy, contributing on the economy of others energy resources. This work describes the development of an empirical model to estimate the diffuse solar irradiation from measurements of the global solar radiation and cloud cover. Models to estimating diffuse irradiation in surface are very valuable due to the complexity and the large costs involved in its measurement. The empirical model presented here was developed and validated by using ground data acquired in a SONDA measurement site (Brazilian Database System for Environmental Data toward to the energy sector (www.cptec.inpe.br/sonda) installed and in operation at the Southern Space Observatory SSO/CRS/INPE-MCT (29S, 53W), So Martinho da Serra, RS, Brazil, since 2004. The model presented a bias mean error of -0,001 and a root mean square error of 0,096. It was observed that diffuse irradiation grows when northerly wind brings biomass burning aerosols from Brazilian Central and Northern regions during the dry season, from May to October. For the dry season, the bias error grows up to a mean of 0,041 and the root mean square error reaches 0,111.

I T A L Y

