

# **Welcome and Status Report**

Workshop on Radiation Monitoring for the International  
Space Station (WRMISS)

4 –5 November 1999  
DERA Farnborough, England

presented by

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# Topics

Recommendations of the previous workshop held in  
Budapest, Hungary

Action Items

Workshop on Predictions and Measurements of Secondary  
Neutrons in Space

Multilateral Radiation Health Working Group Meetings

Goal of the Workshop

## **3rd Workshop on Radiation Monitoring for the ISS**

KFKI Atomic Energy Research Institute, 24-26 March, 1998, Budapest,  
Hungary

### **RECOMMENDATIONS**

An update of the common models (trapped environment, geomagnetic cut-off and solar storm) is urgently needed, due to the discrepancy between models and measurements. A simple access routine to the models should be provided. More instrumentation on satellites is required to provide new data on proton and electron fluxes.

Distributed data base in a common format shall be used for detailed information, a common data base shall be established for all data in a reduced form. Criteria which information is required have to be set up.

Cross calibration is an indispensable work in order to allow for adequate data comparison. For calibrations HIMAC, AGS, Loma Linda facility and the CERN calibration field shall be used. Intercalibration onboard ISS is deemed necessary. Response functions has to be determined, uncorrected and corrected data need to be provided included correction procedure. For each detector system a common correction technology shall be used. Benchmarks - e.g. relativistic iron peak or CERN calibration field- relevant to the environment needs to be defined and used for proper testing of the instrument characteristics

Active and passive personal dose measurements are strongly recommended. The same holds for measurements inside human phantoms. The required tissue absorbed doses can be determined by combining the information of surface absorbed doses at the human body with depth dose data provided by the phantom measurements.

Recent results show that secondaries deliver a significant contribution to the dose. The high biological effectiveness of such components call for additional efforts.

Fragmentation studies should therefore be intensified. Improved measurements of the neutron component is required especially at energies between 1 and 20 MeV and if possible also at higher energies. Advanced instrumentation is absolutely necessary.

Regular organisation of workshops dedicated for developing and modelling, measuring and evaluation technics significantly helps the improvement of dosimetry on the ISS.

**Action items from the Budapest Workshop:**

The group should try to get part of the July campaign at CERN. Dr. Hoefert will be contacted (**Action: G. Reitz**). In case time for the investigators is available following investigators are ready to participate in this calibration: R. Beaujean, G.D. Badhwar, Ts. Dachev, S. Deme, K. Fujitaka, W. Heinrich, M. Luszik-Bhadra, M. Panasyuk, G. Reitz, W. Schoener, E.G. Stassinopoulos.

Installation of data base and WEBpage for the workshop. Data Format (**Action: D. Heynderickx, G. Reitz, End July 98**)

Next Meeting is planned at BIRA/IASB or Louvain-La-Neuve, Belgium, March-April 1999, Organiser: D. Heynderickx



### **MRWHG Consensus Acute and Annual Exposure Limits**

<b>Organ Specific Exposure Limits (Sv)</b>			
<b>Exposure Interval</b>	<b>Depth (5.0 cm)</b>	<b>Eye (0.3 cm)</b>	<b>Skin (0.01 cm)</b>
<b>Acute</b>	<b>0.25</b>	<b>0.5</b>	<b>1.5</b>
<b>Annual</b>	<b>0.50</b>	<b>1.0</b>	<b>3.0</b>

**Joint Administrative Career Limit 1 Sv**

## **Goal of the Workshop**

Providing the most recent information

- measurements
- new instrument development
- intercalibration of instruments
- improvements of models

Establishing requirements for the instrumentation for the ISS

Recommendations



