The influence of UV-B and temperature on the spore biological dosimetry at south of Brazil (29°S, 53°W)

Rampelotto P.H., Rosa M.B., Schuch N.J., Pinheiro, D.K., Zanandrea A.
Southern Regional Space Research Center - CRS/CIE/INPE - MCT, in collaboration with the Santa Maria Space Science Laboratory - LACESM/CT- UFSM, Santa Maria, Brazil

An overview involving UV-B, spore dosimetry and temperature monitoring at the INPE’s Southern Space Observatory – SSO, (29°S, 53°W), South of Brazil, from 2000 to 2006 is reported. The biosensor, based in the inactivation of spores of Bacillus subtilis TKJ 6312 (Spore Inactivation Doses, SID), has been used as indicator of the biologically effective solar radiation. At monthly exposures, the SID (Spore Inactivation Dose) is determined as the natural logarithm of surviving fraction; SID = - ln (N_e/N_c), where N_e and N_c represent the average number of colony-formers recovered from exposed and control spots, respectively. Monthly exposures were performed to monitor the long term changes in solar UV radiation. For this propose, the biosensor needs to be stable under various and adverses climatological conditions. In these contexts, the impacts of the solar radiation and temperature on biological systems have been studied. The temperature, UV-B and SID varied relatively to about 40%, 80% and 92% respectively for the analyzed period. The principal perturbations of the temperature on the spore inactivation doses are observed for each year in the end of the springs and during their summers indicating an 11% influence relatively to the absolute values.
Thank you for submitting your abstract to QOS 2008.
Notification of your submission status (Accepted, Rejected) will be sent to you at this e-mail address.
If you have any questions, please contact us at ingvild@tromsoevent.com.

1. Family name:* Rampelotto
2. First name:* Pabulo Henrique
3. Title: The influence of UV-B and temperature on the spore biological dosimetry at south of Brazil (29=B0S, 53=B0W)
4. Address:* Southern Regional Space Research Center - CRS/CIE/INPE - MCT, in collaboration with the Santa Maria Space Science Laboratory - LACESM/CT- UF=SM, Santa Maria, Brazil
5. Telephone:* 55 55 3301 2208
6. Fax: 55 55 3301 2030
7. E-mail address:* pabulo@lacesm.ufsm.br
8. New developments in observational techniques
9. Type of presentation:* Poster
10. Attach your abstract here:*