

OCCUPATIONAL EXPOSURE OF WORKERS WITH GENESIS-UV: DOSIMETRIC RESULTS IN GERMANY

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Ultraviolet radiation (UVR) is cancerogenic. Since most of the solar UVR is absorbed in the ozone layer of the atmosphere, only a fraction of UV-B and UV-A reach the surface of the earth. Nevertheless, this amount of UVR may damage the skin and cause skin cancer. The relationship between UVR and non-melanoma skin cancer has been proven scientifically.

Up to now, there is only poor knowledge of the de facto irradiance, the "amount (dose)" of radiation, during different occupational activities. With GENESIS-UV (GENeration and Extraction System for Individual expoSure), a new approach for measuring generic personal long-term exposures has been established. In this study, the system is used to measure the UVR exposure of 300 workers every year. The workers are equipped with dosimeters throughout Germany from April to October. With a data rate of 1 per second, UV irradiance is measured, along with accelerometer and magnetometer data. Such a dataset enables us to document the individual upper arm posture, and thus to connect our data to global irradiance data and weather data. Such a detailed picture of the UVR exposure has not been presented so far.

A first data evaluation will be presented, and implications for prevention measures will be discussed. Further on, European-wide and worldwide measurements will be introduced, as well as the ongoing activities.