



Ultraviolet radiation and the INTERSUN Programme

UV radiation

What is the difference between UVA, UVB and UVC?

The three types of UV radiation are classified according to their wavelength. They differ in their biological activity and the extent to which they can penetrate the skin. The shorter the wavelength, the more harmful the UV radiation. However, shorter wavelength UV radiation is less able to penetrate the skin.

Short-wavelength UVC is the most damaging type of UV radiation. However, it is completely filtered by the atmosphere and does not reach the earth's surface.

Medium-wavelength UVB is very biologically active but cannot penetrate beyond the superficial skin layers. It is responsible for delayed tanning and burning; in addition to these short-term effects it enhances skin ageing and significantly promotes the development of skin cancer. Most solar UVB is filtered by the atmosphere.

The relatively long-wavelength UVA accounts for approximately 95 per cent of the UV radiation reaching the Earth's surface. It can penetrate into the deeper layers of the skin and is responsible for the immediate tanning effect. Furthermore, it also contributes to skin ageing and wrinkling. For a long time it was thought that UVA could not cause any lasting damage. Recent studies strongly suggest that it may also enhance the development of skin cancers.

Questions

1. What is UV?
2. Is there a connection between ozone depletion and UV radiation?
3. What is the difference between UVA, UVB and UVC?
4. Which environmental factors affect a person's UV exposure?