

The facial distribution of erythemal ultraviolet exposure in south-east Queensland

M G Kimlin^{†‡}, A V Parisi[†] and J C F Wong[‡]

[Hide affiliations](#)

[†]Centre for Astronomy and Atmospheric Research, Faculty of Sciences, University of Southern Queensland, Toowoomba 4350, Australia

[‡]Centre for Medical and Health Physics, Queensland University of Technology, GPO Box 2434, Brisbane 4001, Australia

This paper presents a method for the evaluation of the distribution of the facial erythemal UV exposure and the erythemal UV exposure per unit area of the face using only eight dosimeters located on the vertex of the head, forehead, nose, chin, left and right ears and left and right cheeks. An overall picture of the parts of the face receiving high UV exposures is provided. The distribution of the erythemal UV exposure to the human face at a subtropical latitude was shown to change with time of year and with cloud cover. On two days with similar solar zenith angles, the ratio of the erythemal UV exposure to the nose compared with that on a horizontal plane changed from 0.47 to 0.84 with increased cloud cover. At the same time, the total erythemal exposure per unit area of the face dropped from 122 to 56 mJ cm^{-2} . Although the absolute exposures decreased, the nose received a relatively high exposure.

Subjects

[Medical physics](#)