The broad-band normal incidence UVB beam radiation has been measured at Neve Zohar, Dead Sea basin, using a prototype tracking instrument composed of a Model 501A UV-Biometer mounted on an Eppley Solar Tracker Model St-1. The diffuse and beam fraction of the solar global UVB radiation have been determined using the concurrently measured solar global UVB radiation on a horizontal surface. The diffuse fraction was observed to exceed 80% throughout the year.

The application of the results of these measurements to the possible revision of the photoclimatherapy protocol for psoriasis patients at the Dead Sea medical spas is now under investigation. The suggested revision would enable the sun-exposure treatment protocol to take advantage of the very high diffuse fraction by allowing the patient to receive the daily dose of UVB radiation without direct exposure to the sun, viz., receive the diffuse UVB radiation under a sunshade. This would require an increase in sun-exposure time intervals, since the UVB radiation intensity beneath a sunshade is less than that on an exposed surface.

**Keywords:** Photoclimatherapy, Dead Sea, Psoriasis, UVB