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Are there significant interhemispherical differences in the surface solar spectrum?

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We compare ground-based measurements of the spectral irradiance (from the ultraviolet to the near infrared) carried out under cloudless conditions in Antofagasta (Chile, 23°S), on the Chajnantor Plateau (Atacama Desert, 23°S), at the Izaña Observatory (Tenerife, Spain, 28°N), in Hannover (Germany, 52°N), in Santiago (Chile, 33°S), on King George Island (Antarctic Peninsula 62°S) and at Union Glacier Camp Antarctica, 79°S). We show that the relatively low values in the ozone column in the southern hemisphere, lead peak ultraviolet levels in the Atacama Desert to be 50% higher than those observed in Tenerife. Differences in the visible and in the infrared ranges are less impressive but confirm that the world′s highest irradiance (from the ultraviolet to the near infrared) occurs in the Atacama Desert. This area is characterized by its high altitude, prevalent cloudless conditions and relatively low columns of water vapor and ozone.