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SHORT COMMUNICATION

PROGRESS IN PHOTOVOLTAICS WILEY

Corrigendum to "Improved Silicon Optical Parameters at 25°C, 295K and 300K including Temperature Coefficients" [Prog. Photovolt: Res. Appl. 2022; 30: 164–179]

Martin A. Green

Australian Centre for Advanced Photovoltaics, University of New South Wales, Sydney, New South Wales, Australia

Correspondence
Martin A. Green, Australian Centre for Advanced Photovoltaics, University of New South Wales, Sydney 2052, New South Wales, Australia.
Email: m.green@unsw.edu.au

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Australian Renewable Energy Agency

Four typographic errors have been noted in Table 1 of this paper[1] and the associated Excel file, namely:

1. At 370 nm, the 25°C value of alpha should be 7.117E5/cm (not 7.117E6/cm).
2. At 440 nm, the 300 K value of alpha should be 3.080E4/cm (not 3.080E40/cm).
3. At 1260 nm, the 300 K value of alpha should be 2.89E-04/cm (not 2.89E+00/cm).
4. At 1220 nm, the value of the real part of the index, *n*, should be 3.5195 (not "3.5195)").

Values at 400 nm additionally have been refined in view of a new data[2] point discussed below:

1. At 400 nm, alpha values at 25°C, 295 K, and 300 K have been updated from 9.496E4, 9.397E4, and 9.555E4/cm to 9.060E4, 8.966E4, and 9.117E4/cm, respectively, a 4.6% reduction.

These changes have been made in Sheet A of the new version of the associated Excel file labeled Version 1.2. Optical values appearing in Sheet B have also been corrected. At wavelengths where the reference spectra for photovoltaic measurements are defined, improved Catmull–Rom cubic spline interpolation[3] has now been used to deduce values at wavelengths not appearing in Sheet A (tension 0.5).

The additional reportedly very accurate, experimental data point[2] was measured using picosecond ultrasound spectroscopy at 401.6 nm, a wavelength where ellipsometric techniques struggle to maintain accuracy and absorption coefficients are too high for transmission measurements. Reported 295 K values of *n*, *k*, and alpha are 5.5215 ± 0.0020, 0.2679 ± 0.0020, and 83 800 ± 500/cm, respectively.[2]

The reported value of *n* is 0.6% lower than would be estimated from the tabulation, comfortably within the stated tabulation uncertainty range.[1] Accordingly, tabulated *n* values will not be changed to avoid disturbing their self-consistency. However, the new *k* and alpha values are both 6% lower than would be estimated from the earlier tabulation, just outside the stated uncertainty range.[1] As indicated in

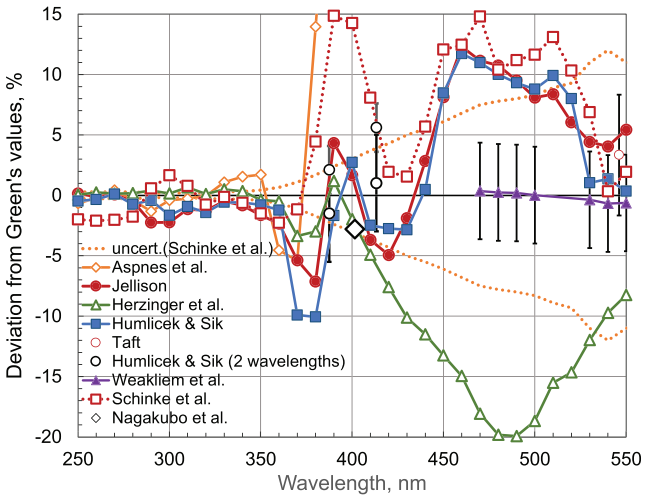

FIGURE 5 (revised): (b) More detailed plot of the differences between datasets over an extended wavelength range by plotting as the percentage difference from Green's 2008 dataset (extrapolated to 295 K). Uncertainty estimates of 5% in the Weakliem and Redfield data,[6] regarded as the most accurate in their wavelength range, are also shown along with those of Schinke et al.[7] Also shown (diamond near 400 nm) is the even more accurate data point of Nagakubo et al.,[2] with its size suggestive of the reported measurement uncertainty

the revised Figure 5B (above), the new alpha value is closest to the data of Herzinger et al.,[4] which are now adopted over the slightly extended 250–400 nm wavelength range with the Humlíček and Šik[5] data now used over the correspondingly restricted 410–460 nm range. This change necessitates an alteration only in the tabulated 400 nm value.

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DATA AVAILABILITY STATEMENT

Attached as (revised) Excel file.

ORCID

Martin A. Green https://orcid.org/0000-0002-8860-396X

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