

Interactive comment on “Re-construction of global solar radiation time series from 1933 to 2013 at the Izaña Atmospheric Observatory” by R. D. García et al.

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This useful and well-presented study analyzes the changing uncertainties in a long term series of global radiation measurements made at Izaña since 1933. The results are of wide interest in view of the growing recognition of the importance of changes and trends in this parameter for climatic change. I recommend its publication after the authors have considered the following suggestions to enhance its practical relevance to those engaged in such studies. 1. To avoid unnecessary multiplicity the World Meteorological Organizations (WMO) recommended term and symbol Global radiation ($E_{g\downarrow}$) should replace Global short-wave downward radiation (SDR). 2. It

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would be helpful to give values for the changing accuracy attainable for $E_{g\downarrow}$ measurements, in particular to cite the values given in the analyses of the IGY results and in the eight editions of the WMO Guide to Meteorological Instruments and Methods of Observations. 3. The analyses of the uncertainties in daily values of $E_{g\downarrow}$ should be repeated for longer periods such as means of weekly, monthly, seasonal and annual values. 4. The accuracy of sunshine duration measured with the Campbell- Stokes recorder should be determined by reference to the time that direct solar beam irradiance, as measured by a calibrated pyrroheliometer, exceeds 120 Wm^{-2} , rather than by comparison with another model of sunshine duration recorder. 5. Line 2 p 4194 A thermoelectric pyranometer capable of continuous accurate measurement of $E_{g\downarrow}$, the Callendar sunshine receiver, was commercially available and in use in the first decade of the last century. 6. Line 23 p 4198 begin should read below?

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