



Improvements to the Solar Forcing Data Record

G. Kopp

University of Colorado / LASP, United States (greg.kopp@lasp.colorado.edu)

I describe two improvements to the total solar irradiance measurement record, which provides the net incoming energy driving the Earth's climate system. The first is improved absolute accuracy in the value of solar irradiance, reducing offsets between the several instruments that have maintained continuity of this climate data record over its 34-year duration. These accuracy improvements are needed for quantifying the Earth's radiative (im)balance and helping make the data record more robust against potential future data gaps. The second improvement described is work in progress toward a better composite record than those currently existing, achieved by analysis of instrument artifacts and time-dependent estimates of uncertainties by the instrument teams acquiring the measurements. This intended future composite will provide climate modelers with an improved 34-year solar forcing record indicating the data quality as a function of time.