



SolarSIM-D2: Advanced analytics

The SolarSIM-D2's powerful software platform provides the opportunity to automate the calculation of several parameters important for CPV.

Short-circuit current density

The SolarSIM-D2-JSC option enables the automatic calculation of the short circuit current density of up to nine different, user-defined subcells. This feature enables rapid identification, analysis and optimization of current-limiting subcells in existing and future multi-junction architectures.

Spectral Correction Factors

The high spectral sensitivity of multi-junction solar cells makes spectral correction a vital component of CPV performance modelling. Spectral correction, or mismatch, factors have been used for decades within the PV research community for this purpose. Spectral correction factors convert unwieldy spectral data sets into simple, intuitive time-series data, for each given subcell of interest. The SolarSIM-D2-SCF option enables automated calculation of spectral correction factors for up to nine, user defined subcells.

To enable these analytics, users must load their subcell spectral response curves and CPV optical transmission function, into the SolarSIM-D2 file directory.

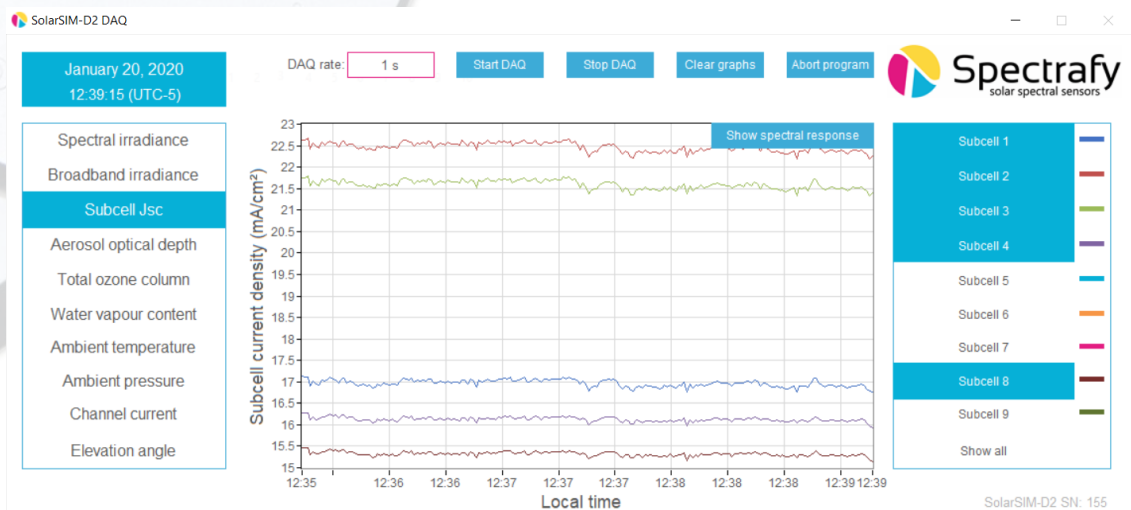


Fig. 1. SolarSIM-D2 GUI displaying automated short-circuit current density data plot.