

SPN1 high

The SPN1 global radiation often is significantly (up to 100 W/m²) higher than Rsw.in on clear days. This could indicate a reflection problem, though without seeing the exact set-up, I can't imagine how reflections would affect only this sensor. Plotting the data as an x-y comparison, there appears to be some curvature (non-linear comparison) both at high and low radiation levels, as well as some hysteresis.

Looking at SOAS data, I also see higher SPN1 values than Rsw.in, but this is well modeled by a simple gain factor. The sky was never totally clear to replicate what is being seen in METCRAXII.

At the least, I would check that the SPN1 is level (though I still can't think of how being non-level would increase incoming radiation values).