

Interactive comment on “Polar baseline surface radiation measurements during the International Polar Year 2007–2009” by C. Lanconelli et al.

Anonymous Referee #2

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Background

In this paper a subset of Polar Stations from the baseline Surface Radiation Network (BSRN) archive is described; this subset is also provided as part of the BSRN archive. This was done for the convenience of those that are interested in the IPY (2007-09). The data include the standard parameters as observed at the BSRN sites.

General Comments

The data described in this paper are extremely important and valuable; they contribute to the IPY effort. The data are being collected in the BSRN framework and as such, follow the BSRN protocols for instrument maintenance, quality control, and archiving. Consequently, they are of the highest attainable quality under the harsh conditions

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existing at these sites. The availability of such data and the effort it takes to collect them is greatly appreciated.

Yet, I am perplexed about the need for this paper. Investigators looking for ground truth are familiar with the BSRN and if ground truth is needed in any particular region of the world (assuming data are collected there), they can be downloaded station by station from the wonderful archive residing at the Alfred Wegener Institute, Bremerhaven, Germany. It is not clear to me why there is a need to subset these data, unless, I am missing a point.

Evidently, during the IPY, special observations have been made just for that time period. Such observations can augment the long term BSRN archive and possibly, could be added to that archive. At present, the community at large is not well informed about the specialized IPY observations. Their archival at the BSRN web site and possibly, quality checked by the BSRN community would add tremendously to our understanding of the radiation climate of the Polar Regions.

Specific Comments

The paper requires thorough editing due to awkward use of the English language. Some examples will be given:

The following sentence is too long and can be broken down to 3 sentences:

Abstract Downwelling and upwelling shortwave and longwave radiation components from six active polar sites, taking part of the Baseline Surface Radiation Network (BSRN), were selected for the period of the last International Polar Year (March 2007 to March 2009), and included in the BSRN-IPY dataset, along with metadata and supplementary data for some of the stations.

1 Introduction The radiative energy budget at surface plays a fundamental role

Should read:

The radiative energy budget at the surface plays a fundamental role

The meaning of the following is not obvious:

The basic set of measurements to be implemented in order to keep part of the network, consists of the global, direct and diffuse components of downwelling solar radiation (shortwave, SW), and the terrestrial (longwave, LW) downwelling radiation.

The following sentence is also awkward:

Being latitude and cloudiness are the most significant parameters affecting it, a discussion of the global shortwave average is abandoned.

Stated:

Collecting data was possible because of different research projects funded by many national institutions:

Is it “founded” or should it be “funded”?

In summary, a convincing argument is needed to explain why a paper needs to be written on a subset of a well documented existing archive which is widely known.

Interactive comment on Earth Syst. Sci. Data Discuss., 3, 259, 2010.

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