

Status of the stations used for the QL Dst index and the QL AE index

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The quality of the Quick-Look (QL, near realtime) indices greatly depends on the automatic data acquisition system at the observatory and the automatic data transmission system between the observatory and our data center. Almost all the observatories have problems in their observation system and data transmission system.

The QL AE (Auroral Electrojet) index is now derived from data obtained at 9 of the 12 standard stations (Abisko, Dixon, Cape Chelyuskin, Tixie, Barrow, College, Yellowknife, Fort Churchill, Poste-de-la-Baleine, Narsarsuaq, Leirvogur and Cape Wellen, the last one was closed in 1996) with an addition of Barrow in April 1999. Of the 9 QL AE stations, 6 provide stable observations, but 3 suffer from severe noise problems that appear to be mainly caused in the data transmission process and that seem to be worsening. The status of the 3 AE stations that are presently not supplying data for QL AE is bleak. Preparations are being made for Cape Wellen to be replaced by Pebek (Valkarkai village, 70d 05m N, 170d 56m E); however, at Pebek, data will be recorded only off line for several years.

An effort is being made to increase the number of stations from which to derive the QL Dst index. The purpose of increasing the number of stations is to reduce the possibility of a large error at a single station leading to a catastrophic error in the QL Dst index. (We have actually experienced such examples frequently.) Currently, we use 5 stations: Hermanus, Alibag, Kakioka, Honolulu and San Juan. We are seeking the possibility of adding Tucson, Alice Spring, Luning, Amsterdam Island, Papeete , and other stations to the present 5 station set. However,

unfortunately, most of these stations are not supplying data steadily. We continue seeking the possibility of obtaining data from Easter Island, Brazil and Lanzou. However, the present situation is such that securing high quality data for the QL index at these stations almost amounts to setting up new stations; such an effort includes absolute measurements that are needed for deriving the secular variation.