

**Surface radiation balance and radiometric properties at the Brazilian Antarctic station  
– preliminary results of the ETA Project**

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Measuring all components of the surface energy balance in the Antarctic region is important for diagnostic and prognostic studies of climate change and for environmental monitoring.

The seasonal and diurnal variations of the surface radiation balance components are described here using *in situ* observations carried out continuously since March 2011, in the Brazilian Antarctic Station on King George Island (62°05'S, 58°23'W). Radiometric properties of the surface (albedo) and of the air (transmissivity) are also discussed here.

The radiation balance, at the surface, was estimated from the radiation components using a pyranometer (model CPM11), a pyrgeometer (model CGR3) and a net radiometer (model CNR4) from Kipp-Zonnen at a sampling rate of 0.05 Hz. These radiometers were set in a 12 meter tower (South Tower) at 1.85 m (CPM11, CG3) and 3.4 m (CNR4) from the surface.

This work is running within the framework of the “National Institute of Science and Technology for Environmental Antarctic Research (*INCT-APA*)”. The data is part of the ETA Project (*Estudo da Turbulência na Antártica*) and its real-time visualization is available on <http://bit.ly/antarctic-eta>.

The ETA Project main objective is to obtain the surface energy balance with the surface turbulent fluxes estimated by the covariance method, during short-duration campaigns (*direct measurement*) and using different parameterisation formulae, during long-duration campaign (*indirect measurement*).

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