



Comparison of 37 months global net radiation flux derived from PICARD-BOS over the same period observations of CERES and ARGO

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The absolute level of the global net radiation flux (NRF) is fixed at the level of [0.5-1.0] Wm⁻² based on the ocean heat content measurements [1]. The space derived global NRF is at the same order of magnitude than the ocean [2]. Considering the atmosphere has a negligible effects on the global NRF determination, the surface global NRF is consistent with the values determined from space [3]. Instead of studying the absolute level of the global NRF, we focus on the interannual variation of global net radiation flux, which were derived from the PICARD-BOS experiment and its comparison with values over the same period but obtained from the NASA-CERES system and inferred from the ocean heat content survey by ARGO network.

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[2] Loeb, Norman G., John M. Lyman, Gregory C. Johnson, Richard P. Allan, David R. Doelling, Tak-meng Wong, Brian J. Soden, and Graeme L. Stephens (2012), Observed changes in top-of-the-atmosphere radiation and upper-ocean heating consistent within uncertainty, *Nature Geoscience*, 5 (no.2), 110-113.

[3] Wild, Martin, Doris Folini, Maria Z. Hakuba, Christoph Schar, Sonia I. Seneviratne, Seiji Kato, David Rutan, Christof Ammann, Eric F. Wood, and Gert Konig-Langlo (2015), the energy balance over land and oceans: an assessment based on direct observations and CMIP5 climate models, *Climate Dynamics*, 44 (no.11-12), 3393-3429.