Geophysical Research Abstracts
Vol. 16, EGU2014-2905, 2014
EGU General Assembly 2014


# Radiation profiles through the atmosphere measured by an auto controlled glider aircraft

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In 2011 radiation measurements through the atmosphere were made with a balloon borne short- and longwave net radiometer. These measurements were very promising and therefore new and improved sensors from Kipp&Zonen were used to equip a glider aircraft together with the standard Swiss radiosonde from Meteolabor AG. The glider serves as returning platform for the expensive and well calibrated radiation sensors. Double balloon technique is used to prevent pendulum motion during the ascent and to keep the radiation instruments as horizontal as possible. The built-in autopilot allows to return the gliderradiosonde to the launch site or to land it on predefined open space, which makes recovery much easier. The new return gliderradiosonde technique as well as new measurement possibilities will be shown. First measurements show radiation profiles through the atmosphere during different cloud conditions. Radiation profiles during different daytimes show the temporal resolution of vertical radiation profiles trough the atmosphere.