



## **Complex night-time CO<sub>2</sub> fluxes at Norunda site**

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Flux measurement at Norunda, Sweden have been carried out since the summer of 1994. In 2007, the old Gill R2 and LI-6262 were replaced by a Metek USA-1 sonic and a LI-7000 gas analyser. This system is in operation even today. The Norunda site is characterized by a flat landscape and a 26 m tall, more than 100-years-old pine-spruce forest nearest the tower. On annual bases the site has shown to be a source of CO<sub>2</sub>, mainly because of high night-time fluxes. Night-time CO<sub>2</sub> fluxes are not only high, they also very variable. Night-time fluxes are usually claimed to be underestimated because of decoupling between the under-story and the above-canopy air. Besides this underestimation many night-time flux values in Norunda seem to be overestimated. Those values could go up to 50  $\mu\text{mol m}^{-1} \text{s}^{-1}$ . The standard ustar-filtering might not be a proper method for the analysis. We will look for alternative filtering methods and show the sensitivity of annual CO<sub>2</sub> budgets on the used methods.