Geophysical Research Abstracts, Vol. 7, 06178, 2005 SRef-ID: 1607-7962/gra/EGU05-A-06178 © European Geosciences Union 2005



## Intercomparison of photosynthetic activity estimates from remote sensing data, field measurements and 3-D radiation transfer modelling: A poplar site in northern Italy.

J.-L. Widlowski (1), M. Meroni (2), N. Gobron (1), R. Colombo (3), T. Lavergne (1),
T. Zenone (1), O. Aussedat (1), L. A. Hunt (4), M. Verstraete (1) and G. Seufert (1).
(1) Institute for Environment and Sustainability of EC-JRC, 21020 Ispra (VA), Italy (2)
UNITUS, V. San Camillo DeLellis, 01100, Viterbo, Italy (3) Universita degli Studi di Milano Bicocca, Piazza della Scienza, 20126 Milano, Italy (4) Science Applications International Corporation (SAIC) Atmospheric Sciences Data Center NASA Langley Research Center Hampton, VA, USA.

Estimates of the photosynthetic activity of land surfaces (FAPAR) can be retrieved from optical remote sensing data and are now available for at least 6 years over the main CarboEurope IP sites. In this contribution we present initial findings of an intercomparison of FAPAR estimates derived from optical remote sensing data with actual field measurements and radiation transfer (RT) simulations carried out with a detailed 3-D RT models. Various in-situ measurements, both spectral and geometrical, have been taken over two experimental sites in the Ticino region, Italy, and can be used to perform radiative transfer simulations that account for the 3-D nature of the target under study. These 3-D simulations, in turn, may prove essential in the analysis of scale issues when comparing information at different spatial resolutions, and provide the high accuracy levels that are needed to address carbon sink issues.