FACOLTÀ DI SCIENZE MATEMATICHE, FISICHE E NATURALI
DIPARTIMENTO DI MATEMATICA E FISICA "NICCOLÒ TARTAGLIA"
INTERNATIONAL DOCTORAL PROGRAM IN SCIENCE

Theory and application of surface flux measurements

Introduce:
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Abstract:
The accurate measurement of the energy and trace gas exchange at the Earth's surface is very important for understanding various problems in current environmental research such as the greenhouse effect, atmospheric chemistry, aerosol and cloud formation, and nutrient cycling. Because most surface emission and uptake processes depend on meteorological parameters (temperature, light, humidity, etc.), they have to be studied in situ under representative and undisturbed environmental conditions with typical diurnal and seasonal cycles. Several techniques have been developed for measuring trace gas exchange at terrestrial surfaces on spatial scales between about 10-1 to 104 m. They have different requirements concerning the precision and time response of the trace gas detection, the surface homogeneity, or the duration of application. Beside enclosure and mass balance methods, micrometeorological techniques are often used that quantify the vertical turbulent dispersion in the air layer above the surface. Theoretical and practical requirements and limitations of the methods will be presented and discussed.

Seminario

Martedì 17 ottobre 2017
Sala Riunioni, ore 14.30
Via dei Musei 41 - Brescia

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