HIGH SOLAR IRRADIANCE MEASUREMENT at P.R.O.M.E.S.

Calorimetry

Measurement by reflexion

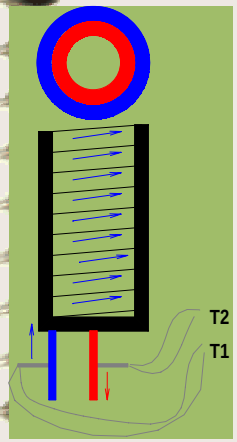
Integrating sphere & photo sensor

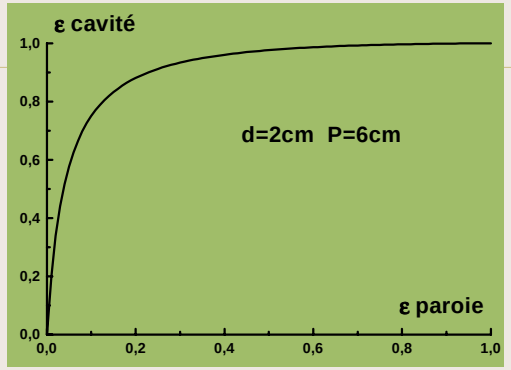
Integrating sphere & spectral detection with direct concentration measurement

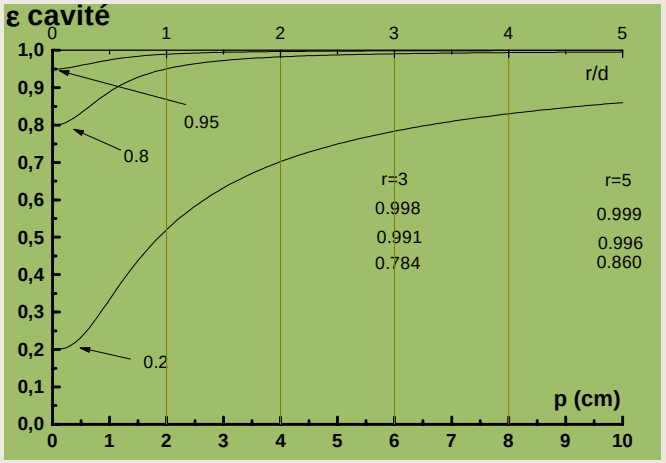
Daniel HERNANDEZ

Calorimetry – G. Hernandez

$$\Phi = m\, Cp\, (T2-T1) / \Delta t$$

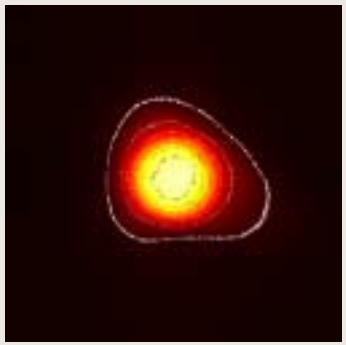






$$\varepsilon_c = \{\varepsilon[1+(1-\varepsilon)\,(s/S - \sin^2(\theta))\}/\{\varepsilon[1-s/S]+s/S\}$$

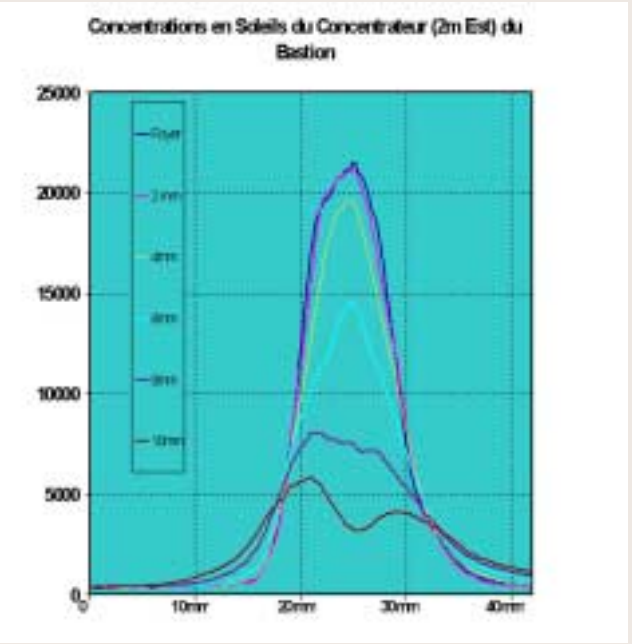
Measurement by reflexion – J. Giral



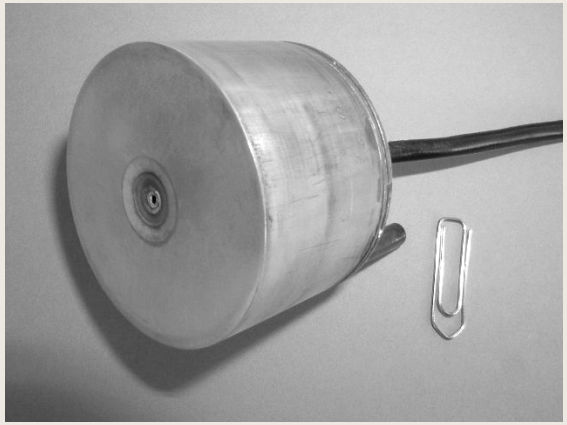
Al_2O_3 Coating on Water-cooled Cu

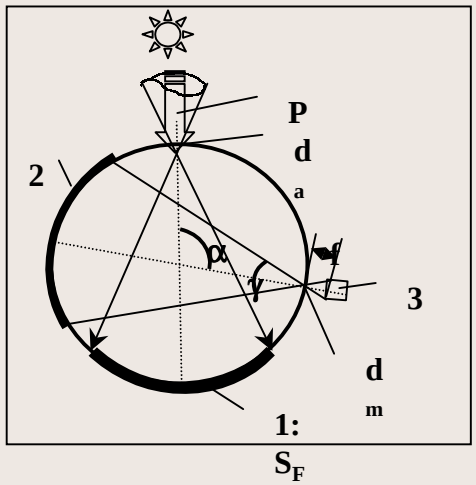
CCD Camera 764x580 →1,5mm²

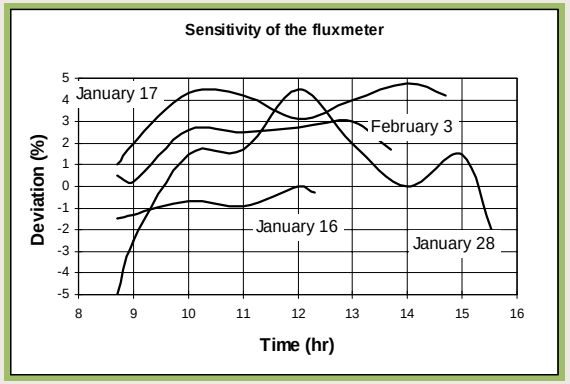
Calibration with a calorimeter

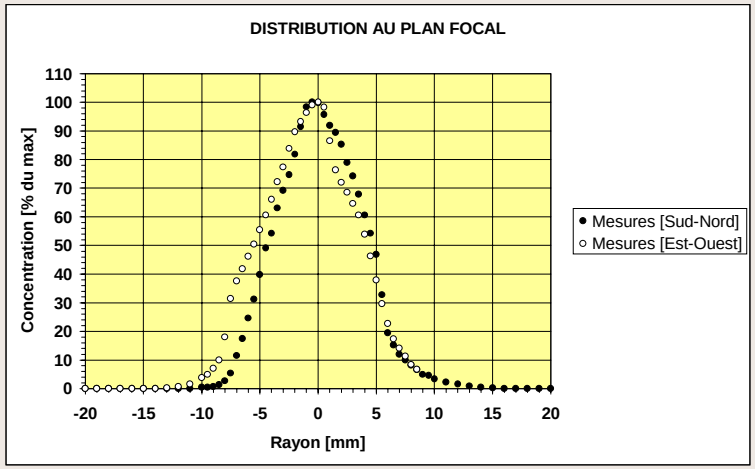


Integrating sphere & Photo sensor – A. Ferriere









Direct concentration measurement

J.M. Badie & B. Granier