

# Method and apparatus for determining the absorption of weakly absorbing and/or scattering liquid samples

## *Abstract*

The product is suited for the determination of steady state or transient absorbance spectra of weakly absorbing and/or turbid liquid samples: (i) using 2-3 orders of magnitude lower concentration than in the 'conventional' measuring protocols, and (ii) eliminating spectral distortions due to light scattering in suspensions. It can be adapted to virtually any steady state or kinetic spectrophotometer. Main fields of application include molecular and biological spectroscopy, determination of the pigment content in natural waters, and other water quality measurements, industrial spectroscopy, flash photolysis and reaction kinetics.

## *Description of product*

The product (family) is based on the principle of integrating cavity spectrophotometry. The multipath integrating spheres or cuvettes can be optimized for the given application area via properly selecting the reflecting and protecting coatings, the input and exit parameters and some other technical details, and are supplied with correction algorithm for the non-linear concentration dependence. For some technical details, typical applications and a correction procedure, see Jávorfí et al. (2006) J. Photochem. Photobiol. 82: 127-131, and forthcoming publications.

## *Patent info*

Patent applications have been filed for Hungary and the IP rights are further extended under the PCT for several other countries.

- *Hungarian patent application No:* P0400816
- *Title:* Method and apparatus for determining the absorption of weakly absorbing and/or scattering liquid samples
- *Priority date:* April 19, 2004