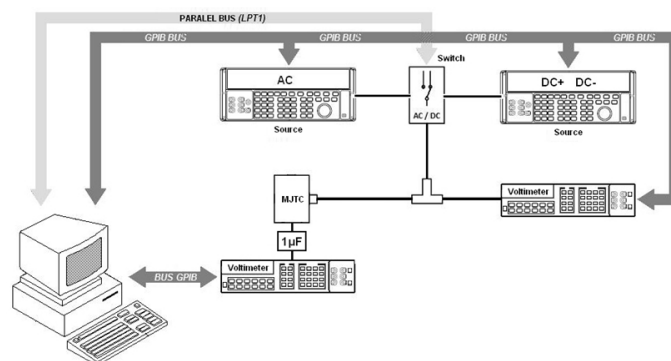


## 04TC088 Thermal converter level dependence determination by digital sampling

Alexandre Lourenço<sup>31</sup>, Raul Caballero Santos<sup>2</sup>, Javier Diaz De Aguilar Rois<sup>2</sup>

This paper describes a method to evaluate the low frequency level dependence of Planar Multijunction Thermal Converter (PMJTC) based on digital sampling. The measurement system, the algorithms and the validation are also described. This method is also valid to obtain the absolute value of the ac-dc difference of a thermal converter at low frequency.

Key words: ac-dc difference, planar multijunction thermal converter, digital sampling, Level dependance



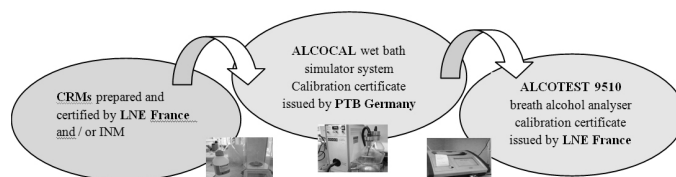
**PMJTC Measurement system using Swerlein algorithm**

## 04TC116 Exhaled Breath Alcohol - Quality Assurance In The Field Of Legal Metrology

Mirela-Adelaida Anghel<sup>32</sup>, Fanel Iacobescu<sup>32</sup>, Alexandru Salceanu<sup>33</sup>

Breath alcohol analyzers are widely accepted as legal measurement instruments used for determination of the mass concentration of alcohol in exhaled breath. The paper focuses on the following issues: configuration of experimental system; the assurance of traceability at the highest standards; calculation of Zeta score and Trueness test - En numbers, both for simulator system and CRMs; the influence of CO<sub>2</sub> and on the influence of the exhaled breath temperature when the human body's temperature increases up to 38, 39 or, in extreme conditions, up to 400C.

Key Words: legal metrology, mass concentration, traceability, reference materials, breath analyser



**Measurement set-up for mass concentration of alcohol within simulated breath measurements**