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Sommario	<p>The research presented here was aimed to develop a method traceable to SI to compare the absolute fluorescence intensity measured by different instruments. This is due to the fact that the most common instruments use arbitrary measurement units. Each measure strictly depends on the technical intrinsic properties of the single instrument, hence the use of suitable reference materials is necessary to define its calibration scale. To overcome this problem, it is necessary to define a reliable and universal measurement unit allowing to measure the absolute fluorescence intensity, whichever system is used, independently from the reference materials which are used. In the present work, a protocol that permits the comparison of data taken with different fluorescence instruments has been developed. The relationship between the arbitrary unit of these instruments and the molecule numbers of the standard reference material used has been studied. This allows the transformation from arbitrary unit to MESF, i.e. MOLECULAR EQUIVALENTS OF SOLUBLE FLUOROCHROME [1]. The standard reference fluorescence material used was Fluorescein. Standard reference materials of Fluorescein were used to ensure the traceability of measurements results. The work goals were to obtain: a method to prepare fluorescein</p>

solutions of calibration; characterization of fluorescence instruments and their calibration; study of a measurement method of the calibration samples and calculation of their uncertainty budget, expressed in number of molecules of fluorescein, (NF). The final work goal was to obtain an uncertainty budget for measurements, expressed in equivalent number of molecules of fluorescein (MESF) for each used instrument.. By applying this method It has been possible to compare different measurements, using different fluorescence instruments.

Localizzazioni e accesso

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