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GENERAL PAPER

Analytical Methods Committee

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The Analytical Methods Committee has received and approved the following report from the Instrumental Criteria Sub-Committee.

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The following report was compiled by the above Sub-Committee of the Analytical Methods Committee (AMC), which consisted of Professor S. Greenfield (Chairman), Dr. M. Barnard, Dr. C. Burgess, Professor S.J. Hill, Dr. K.E. Jarvis, Dr. G. Lord, Dr. M. Sargent (the late), Mr. D.C.M. Squirrell, Dr. N. Walsh, and Dr. M. West with Mr. C.A. Watson as Honorary Secretary. The initial input of the features for consideration was undertaken by a working party comprising Professor S.J. Hill and Dr. N. Walsh to whom the committee expresses its thanks.

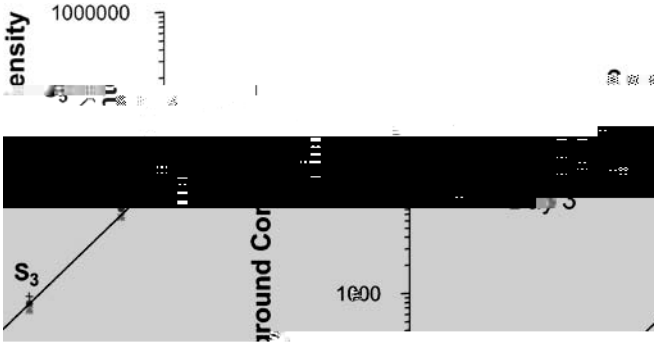
The purchase of analytical instrumentation is an important function of many laboratory managers, who may be called upon to choose between wide ranges of competing systems that are not always easily comparable. The objectives of the instrumental criteria Sub-Committee are to tabulate a number of features of analytical instruments that should be considered when making a comparison between various systems. As is explained below, it is then

2. Weighting factor (WF). This will depend on individual requirements. All features mentioned in the tables have some importance. If, in Sub-Committee's opinion, some features are considered to be of greater importance they are marked I. Those features of greatest importance are marked as VI (very important). A scale should be chosen for the weighting factor that allows the user to discriminate according to needs (e.g. x1–x3 or x1–x10). The factor could amount to the total exclusion of the instrument.

such a truncated experiment is envisaged, it is essential that it be applied equally to all instruments under evaluation.

Experimental

For each wavelength/element to be tested, prepare five standard solutions; the lowest (S_1) should have a concentration corresponding to about one order of magnitude above the detection limit. The other four (S_2–S_5) should be prepared so that a total of five orders of magnitude are covered. The preparation of such a series of



However, data should not only be presented or analysed in the form of log–log graphs, as quite large differences in signal show only as small shifts in the graphs. For example, the top standard intensity is useful in assessing drift. In the example below day 1 shows excellent freedom from drift whereas days 2 and 3 indicate significant problems over the 3-h total run time.

Individual points can be compared by calculating the