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Australian Standard®

Surface chemical analysis—Data transfer format

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- Australian Chamber of Commerce
- Australian Institute of Physics
- CSIRO Energy Technology
- Department of Defence (Australia)
- Department of Natural Resources and Mines Qld
- National Association of Testing Authorities Australia
- Queensland Health Scientific Services

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- Curtin University of Technology
- La Trobe University
- University of Newcastle
- The University of New South Wales
- The University of Queensland
- University of South Australia

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PREFACE

This Standard was prepared by the Standards Australia Committee CH-016, Spectroscopy. This Standard is identical with, and has been reproduced from the 1999 corrected and reprinted version of ISO 14976:1998, *Surface chemical analysis—Data transfer format*.

The objective of this Standard is to ensure that a format to transfer data from computer via parallel interfaces or via serial interfaces over direct wire, telephone line, local area network or other communication link is properly achieved.

As this Standard is reproduced from an international standard, the following applies:

(a) Its number appears on the cover and title page while the International Standard number appears only on the cover.

(b) In the source text 'this International Standard' should read 'this Australian Standard'.

(c) A full point substitutes for a comma when referring to a decimal marker.

The term 'informative' has been used in this Standard to define the application of the annex to which it applies. An 'informative' annex is only for information and guidance.

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INTRODUCTION

In surface analysis many commercial instruments are operated through a computer. This computer is also used for processing the captured data, using routines from a built-in set of options for peak synthesis, peak deconvolution, background subtraction, peak area measurement, quantification in various levels of sophistication, mapping, depth profile presentation, smoothing, differentiation and a host of other functions. However, many analysts wish to process their data on another computer in their own particular way using programs written to their specification and under their full control. They need to encode the dat in the data-capture computer into a form suitable for transmission then decode it into the form required in the receiving computer. Manufacturer's data formats all differ and differ again from instrument model to instrument model for any given manufacturer. These formats are not published. A standard format for the transferring of data is required to enhance communication, reduce the number of programs required to effect the encoding and decoding and to reduce the uncertainty of data analysis.

AUSTRALIAN STANDARD

Surface chemical analysis — Data transfer format

1 Scope

This International Standard specifies a Format to transfer data from computer to computer via parallel interfaces or via serial interfaces over direct wire, telephone line, local area network or other communications link. The transferred data is encoded only in those characters that appear on a normal display or printer. The format is suitable for AES, EDX, FABMS, GDS, SIMS, SNMS, UPS, XPS, XRF and similar analytical methods. It covers spectra, elemental maps, depth profiles and sequences of data resulting from a variety of experiments.

2 Description of the format

2.1 General

The design of this Format is presented in Annex A. The Format is described using components of the metalanguage defined in the British Standard - Method of defining syntactic metalanguage, BS 6154:1981[1], the appropriate elements of which are given in 2.2 and 2.3.

In this Format some parameters are relevant only to particular cases of the three items; experiment mode, scan mode or technique, and provision is made for including these parameters only where they are relevant. This conditional inclusion could be expressed in the metalanguage, but only at the expense of a more complicated structure than a simple list. To keep the structure simple these parameters are expressed as optional-sequences, and have the conditions under which each of these optional-sequences is to be included specified in an accompanying bracketed-textual-comment.