then it can easily be demonstrated that the instrument will not be stable to variations in the intensity of the lamp. Some microdensitometers make use of coloured filters and slits to isolate the regions of interest on a film. On these instruments it is essential to insert filters of the same colour into both beams.

The bulb life should be long to avoid the inconvenience of frequent renewals.

It should be possible to illuminate the film from the back to study the features on it by eye.

The instrument should be stable to changes in the light of the room in which it is being used.

Electrical. There should be good diagnostics for electronic faults and the machine should not be affected by minor variations in mains voltage. It should cut out if spikes in the mains voltage occur.

Computational. It should be easy to interface the instrument to a computer. If the instrument is computer controlled, it should have diagnostic test programs to check its performance.

Mechanical. If a large amount of data is being collected on an instrument connected to a slow output device, such as a paper tape punch, then this punch may become a constraint on the speed of the whole system. It is important to match the type of output peripheral to the anticipated volume of data to be output. It is also worth noting that paper tape punches are liable to break down quite frequently if they are subject to long heavy continuous use.

Table movements must be accurate, reliable, and well calibrated in both directions.

The moving wedge on a double beam microdensitometer may be connected to the servo motor by a flexible drive. If this is the case, the drive may stretch with use, or with variations in temperature.

Operational. When setting up a densitometer, it is useful to get a display of the results being obtained. On some densitometers this information is output on a printer as an array of numbers, so that it can be related to the orientation of the film.

Conclusion

It is hoped that the points made above will help to improve microdensitometer design, and make potential users more aware of the problems that they may encounter.

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Reference

Ferrier, W. G., McMullan, J. T. & Sutherland, D. C. (1973). *J. Phys. C*, **6**, 1489–1499.

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Use of high and low temperature attachment for Weissenberg camera

When using an attachment to the Nonius Weissenberg camera for temperatures between −150 and 300°C (Kreuger, 1955) it is advantageous to connect an air pump rather than a cylinder of compressed gas to provide the stream to be heated or cooled. The crystal should be enclosed in a capillary tube if it is liable to deteriorate in a flow of cold or warm air. Air-pumps sold for use in an aquarium can be adjusted to a flow rate of about 3 litres/min ($5 \times 10^{-6} m^3 . s^{-1}$) through the camera, measured by an air-flow meter. This gives temperature control which is at least as satisfactory as when gas from a cylinder is used, and is certainly more convenient for unattended operation over long periods.

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Kreuger, A. (1955). *Acta Cryst.* **8**, 348–349.

Crystallographers

This section is intended to be a series of short paragraphs dealing with the activities of crystallographers, such as their changes of position, promotions, assumption of significant new duties, honours, etc. Items for inclusion, subject to the approval of the Editorial Board, should be sent to the Executive Secretary of the International Union of Crystallography (J. N. King, International Union of Crystallography, 13 White Friars, Chester CH1 1NZ, England).

Professor **A. Guinier**, Professor **R. Uyeda** and Professor **E. R. Wölfel** have resigned as Co-editors of *Journal of Applied Crystallography*. Professor Guinier was Editor of the journal from its creation, in 1968. Following his election as President of the Union in August 1969, he relinquished his role as Editor from the end of that year but continued as a Co-editor. Professor Uyeda and Professor Wölfel had been Co-editors from the start of the journal. Professor **J. C. Joubert**, Ecole National Supérieure d'Electrotechnique et de Génie Physique, Grenoble, France and Professor **D. Watanabe**, Tohoku University, Sendai, Japan, have been appointed Co-editors. Their full addresses are given on the inside front cover of this issue.

Dr **F. H. C. Crick**, Medical Research Council Laboratory for Molecular Biology, Cambridge, England, has been awarded the 1975 Copley Medal of the Royal Society for his elucidation of the structure and function of DNA and his continuing important contributions to molecular biology.

Professor **D. C. Phillips**, Department of Zoology, University of Oxford, England, has been awarded a Royal Medal for 1975 in recognition of his solution of the three-dimensional structure of an enzyme and his outstanding contributions to the techniques of X-ray crystallography. Three Royal Medals are awarded annually by Queen Elizabeth upon the recommendation of the Royal Society.

Mr **G. N. Hounsfield**, E.M.I. Limited, has been awarded the Dunddell Medal and Prize by the Institute of Physics, for his outstanding developments in the use of X-rays for the examination of three-dimensional structures.

International Union of Crystallography

International Tables for X-ray Crystallography

The Executive Committee of the International Union of Crystallography has found it necessary to increase the prices of the four volumes of the present series, which are published for the Union by The Kynoch Press. Volumes I, II and III will now cost £9.50 per volume whilst Volume IV, which was published in September 1974, will cost £11.50. Orders may be placed direct with The Kynoch Press, Witton, Birmingham B6 7BA, England, with Polycrystal Book Service, P.O. Box 11567, Pittsburgh, Pa. 15238, U.S.A. or with any bookseller.