Laboratory Note

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A computer-controlled slit unit for the PW1100 diffractometer

The Philips PW1100 single-crystal diffractometer is normally equipped with fixed horizontal and vertical detector apertures which have to be changed manually. For some applications it may be useful to have a computer-controlled horizontal detector-slit unit. The purpose of this note is to describe the design of such a unit.

The slit unit used in our laboratory is shown in Fig. 1. It basically consists of two brass plates which can be moved by the rotation of a shaft. The left and right halves of the shaft are threaded with opposite pitch in such a way that rotation of the shaft moves the plates in opposite directions. At one end, the shaft is connected to a stepping motor (Astrosyn 11PM-A002) by a slip clutch. The other end (left on the photograph) is connected to a ten-turn potentiometer, which is used for the indication of the actual slit width. The slit unit is driven by two output lines of the computer originally used for the balanced filter unit.

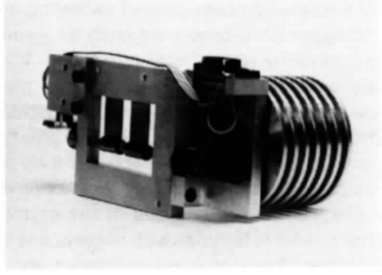

Fig. 1. The mechanical part of the slit unit. Right: stepping motor. Left: potentiometer.

The stepping motor is controlled by the external pulse facility of the motor-drive circuit (PKS DIGICARD 053/1). One of the output lines is used to give the required number of pulses to the motor-drive card. The second output line is used for the selection of the direction in which the slit has to be changed. In order to avoid the motor becoming hot when it is not stepping, an electric circuit to reduce the static hold current has been developed. The hold current is controlled by extra pulses on the direction output line.

Software has been developed for the slit setting control. When the slit is set for the first time after loading the program from the cassette recorder (PW1115), a zero run is made. In this run a large number of pulses are given to set the slit at zero. Damage to the slit by superfluous steps is prevented by the slip clutch. The next slit settings are done in an incremental way. The actual slit setting is displayed on a digital voltmeter (Analogic AN2575) connected to the potentiometer.

A more detailed description which can be used for construction can be obtained from the authors.

S. HARKEMA
G. J. van HUMMEL

Chemical Physics Laboratory
Twente University of Technology
PO Box 217
7500 *AE Enschede*
The Netherlands

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International Union of Crystallography

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Twelfth General Assembly and International Congress of Crystallography

The Twelfth General Assembly of the IUCr and the Twelfth International Congress of Crystallography will be held in Ottawa, Canada, at Carleton University, under the sponsorship of the National Research Council of Canada, 16–25 August 1981. Registration will take place on Sunday 16 August. The Congress will open on Monday 17 August and sessions will continue until Tuesday 25 August.

The scientific programme will include invited general lectures, invited oral papers and open Commission meetings. Most contributed papers will be presented in poster sessions. Commercial and non-commercial apparatus will be exhibited and crystallographic data file demonstrations are planned. The Congress will cover recent advances in all aspects of crystallography.

Dr L. D. Calvert is Chairman of the Organizing Commitee, and Dr F. R. Ahmed is Chairman of the Programme Committee.

Carleton University residences will provide economical and convenient accommodation, mostly in shared rooms. In addition, downtown hotels and camping facilities will be available. A first circular will be available in early 1980. A second circular with a call for papers, more details of the programme, the general arrangement and registration forms will be distributed in the autumn of 1980. Those wishing to receive these circulars should write to:

Mr K. Charbonneau,
Executive Secretary,
XIIth IUCr Congress,
National Research Council of Canada,
Ottawa, Ontario, Canada, K1A 0R6.
Telephone: (613) 993-9009.
Telex: 053-3145 NRC ADMIN OTT.

Associated Meetings

At present the following meetings are being considered.

1. An *International Summer School on Crystallographic Computing* is planned for the period before the Congress. For further details contact Dr D. Sayre, Research Division, IBM, PO Box 218, Yorktown Heights, NY 10598, USA.

2. A *Symposium on Neutron Diffraction* will be held on 12–13 August 1981 at Argonne National Laboratory, Argonne, Illinois (near Chicago) dealing with recent development in neutron scattering with special emphasis on pulsed neutron sources: Local Chairman, Dr. M. H. Mueller, Materials Science Division, Argonne National Laboratory, 9700 South Cass Avenue, Argonne, IL 60439, USA: Program Chairman, Dr D. E. Cox, Physics Department, Brookhaven National Laboratory, Upton, NY 11973, USA.

3. A *Symposium on Crystallography in the Health Sciences: Crystalline Deposits in Human Tissues* will be held at Mt Sinai Hospital, Toronto, 13–14 August 1981: Local Chairman: Dr P. T. Cheng, Mt Sinai Hospital, 600 University Ave., Toronto, Canada, M5G 1X5. For further details write to Professor S. C. Nyburg, Chemistry Department, University of Toronto, Toronto, Canada, M5S 1A1.

4. A *Symposium on Biologically Active Molecules* will be held at the Medical Foundation of Buffalo, 26–28 August 1981. For details write to Dr W. L. Daux, Medical Foundation of Buffalo, 73 High Street, Buffalo, NY 14203, USA.

0021-8898/80/010105-01$01.00