

the points of intersection of the plane normals with the sphere of projection (Kleber, 1985).

Software environment: The source code is written in Turbo Pascal 7.0. The distribution package includes an executable version for both the real and the protected DOS mode. No other libraries are necessary. The program offers a user-friendly graphical user interface (GUI) that is fully mouse-controlled except for the data input.

Hardware environment: The program runs on IBM-compatible PCs under MSDOS 6.0 and higher. The unpacked distribution takes about 400 kbytes of disk space. The program uses VGA graphics and an IBM-compatible mouse. Output is in the form of PostScript files, which then can be sent to a PostScript printer or viewed with public domain software such as *GHOSTSCRIPT*.

Program specification: *STEREOGRAMS* is interactive and allows change to a new orientation either by manual input or by a click on the Wulff net. All (*hkl*) can be indexed on screen. Angles between any two (*hkl*) can be calculated and rotations by φ and ρ in the Wulff net are possible. It is also possible to select the hemisphere of the sphere of projection to be displayed. (upper/lower or both). The output PostScript file displays a 20 cm Wulff net with the fully indexed stereogram.

Documentation: Since the usage is self-evident from the GUI, there is no need for an extensive manual. Instead, some online help is provided. Furthermore, the distribution includes an example PostScript file and some input files.

Availability: *STEREOGRAMS* can be obtained by anonymous FTP from <ftp.nirim.go.jp/pub/education/dos/stereogram/steregm.exe> or by downloading from the author's home page at <http://www.nirim.go.jp/~weber/>.

Keywords: Stereographic projection, Wulff net, arbitrary orientation, auto-indexed PostScript output, GUI.

References

Kleber, W. (1985). *Einführung in die Kristallographie*. Berlin: VEB Verlag Technik.

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 Co-editors, should be sent to The Executive Secretary, 2 Abbey Square, Chester CH1 2HU, England.

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The retirement of Professor **Jinzo Kobayashi** from the Department of Applied Physics, Waseda University, Tokyo, after his association with it of over fifty years, was celebrated on 2nd March 1996 in the University's International Convention Center. A distinguished audience of about 200 crystallographers, physicists and other guests heard a lecture by Professor Kobayashi on 'Chiral Physics' and another on 'Crystal Optics, Ferroelectricity and Prof. Kobayashi' by Professor S. C. Abrahams. Prior to the series of papers published by Professor Kobayashi in the *Journal of Applied Crystallography* on his High-Accuracy Universal Polarimeter, the shapes and dimensions of the gyration surfaces for nearly all optically active crystals were unknown. His major experimental and theoretical breakthrough in developing HAUP has led to the ability to determine the birefringence, optical activity and indicatrix rotation in crystals of any symmetry, whether dichroic or not, in addition to their full electrogyration and electro-optic tensors. The celebration concluded with an elegant farewell party at which many speeches commemorated Professor Kobayashi's scientific work and life.

New Commercial Products

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A full line of X-ray diffraction films, laboratory supplies and accessories for cryocrystallography studies is being introduced by Charles Supper Company, Inc., of Natick, Massachusetts.

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Charles Supper Company, Inc., Donald E. Goodwin, VP Marketing, 15 Tech Circle, Natick, MA 01760, USA.

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Stemi SV 11 Apo Stereomicroscope

The **Stemi SV 11 Apo Stereomicroscope** provides brilliant images with high contrast, outstanding depth of field and colour fidelity, making it the new standard of high-performance stereomicroscopes from Carl Zeiss.

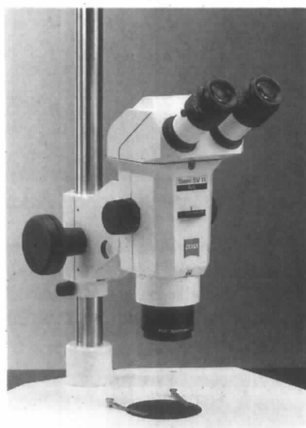
With its zoom factor of 11, it offers the widest zoom range of all stereomicroscopes with planapochromatic correction currently available – orientation at low magnifications is therefore no longer a problem, nor is the exact evaluation of minute details at high magnifications.

The heart of this new stereomicroscope is the new high-performance Plan-Apochromat S 1.0 \times and S 1.6 \times objectives, which provide a total magnification range from 6.0 \times to 264.0 \times . Much emphasis has been placed on providing long working distances: 80 mm (Plan-Apochromat S 1.0 \times) and 40 mm (Plan-Apochromat S 1.6 \times) supply ample space for illumination and manipulation.

Convenience is another subject that is of importance to anyone working on microscopes for hours on end. The Stemi SV 11 Apo features a new tube with a favorable viewing angle of 35°, allowing the user to adopt a relaxed posture.

In addition to the sturdy stand, the basic configuration of the Stemi SV 11 includes a combined coarse/fine drive for rapid and precise focusing.

The quality of the illumination has been matched to that of the optical performance of the microscope. Permanently installed polarizers for coaxial incident-light illumination allow the shadow-free and reflection-free observation of smooth, specular surfaces. New is the slit-ring illuminator for incident-light darkfield illumination, which guarantees maximum resolution and makes even the finest object structures visible.



The Stemi SV11 Apo Stereomicroscope

The Stemi SV 11 fits into the modular system of the Zeiss stereomicroscopes.

Carl Zeiss Jena GmbH, Zeiss Gruppe, Unternehmensbereich Mikroskopie, D-07740 Jena, Germany.

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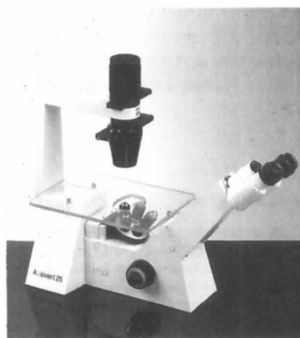
Axiovert 25 Inverted Microscope

The small **Axiovert 25 Inverted Microscope** from Carl Zeiss is compact, sturdy and ergonomic. With a stage height of only 190 mm and working distances between 53 and a maximum of 190 mm, it is ideally suited for cell culture vessels of all kinds. The viewing height is variable and the specimen is always in view. The sliding condenser mount offers brightfield survey illumination. Specimen contrasting in brightfield, phase contrast and the spatial contrasting method VAREL (variable relief contrast from

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A new feature is the combination of time-tested ICS optics for brightfield, phase contrast and epi-fluorescence with the contrasting method VAREL. This means that phase contrast and VAREL, *i.e.* two contrasting techniques, are possible without any need to change the objective and without any magnification change.

The glass stage from the extensive line of Zeiss microscope stages provides outstanding clarity and reliability: the magnification can be seen at a glance and the stage is easy to keep clean under cell culture conditions. 35 mm photography or video technology is available for all types of documentation. The epi-fluorescence device with two positions for fluorescence filter sets and an additional open position for transmitted light allows the combination of two fluorescence contrasting techniques with conventional transmitted light contrasting methods (brightfield, phase contrast, VAREL).



The Axiovert 25 Inverted Microscope

Three configurations are available, including the basic stand Axiovert 25 for observation in brightfield, phase contrast and VAREL. Axiovert 25 C is additionally equipped for analysis and documentation with 35 mm photography or video technology. Axiovert 25 CFI offers the additional possibility of epi-fluorescence.

Carl Zeiss Jena GmbH, Zeiss Gruppe, Unternehmensbereich Mikroskopie, D-07740 Jena, Germany.

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Crystallographica – a software tool kit for crystallography

Crystallographica is a software tool kit for all materials scientists whose work involves crystallography. It consists of a number of elements contained within a Microsoft Windows™ graphical user interface. The most important of these is a Pascal interpreter, which has been extended by the addition of an extensive library of crystallographic 'building block' routines. This unique feature allows programs written in *Crystallographica's* own language to be developed quickly and accurately. These 'scripts' can serve as teaching aids, to automate frequently performed operations or to solve nonstandard research problems. User-scripted routines may be added to the built-in library, so that the system may be easily extended and customized.

This degree of flexibility has been achieved without sacrificing ease of use. Many of *Crystallographica's* tools can be used without the need to write scripts. These include a crystal structure drawing package, an xy graphing tool and a powder pattern simulation package. Crystal properties can be set using a series of user-friendly dialogue boxes, and there is full on-line help together with a tutorial guide.

Crystallographica can read and write both Crystallographic Information Files and SHELXL .ins and .res files. This latter feature means that SHELXL users can use *Crystallographica* first to create the crystallographic section of the .ins file, and then to inspect and modify the crystal in between refinements.

The program runs under Microsoft Windows 3.1, Windows 95 and Windows NT and requires an IBM-compatible 386 or better PC with 4 Mbytes of RAM and 5 Mbytes of free disk space. The academic price is £595/\$995 + VAT/local sales tax.

Oxford Cryosystems, 3 Blenheim Office Park, Lower Road, Long Hanborough, OX8 8LN, England (E-mail: sales@cgraph.demon.co.uk; WWW: http://www.demon.co.uk/oxcryo).