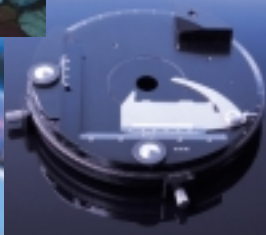
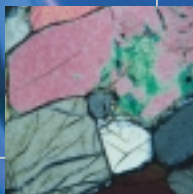


Microscopy from Carl Zeiss

Polarization microscopy



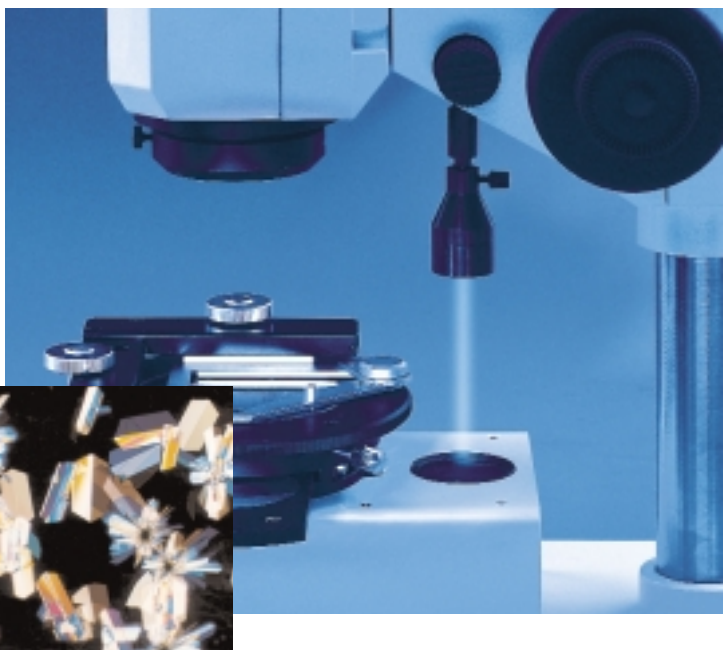
Education
Routine
Research



Stereomicroscopes

The module for polarization contrast

- Easy examination between crossed polarizers
- Colorful images with Red 1 compensator
- Rotary stage with object guide



	Principle	Magnification Range (1)	Magnification Range (2)
Stemi DR 1040	Greenough	10x and 40x	3x to 80x
Stemi DR 1663	Greenough	16x and 63x	4,8x to 126x
Stemi DV4	Greenough	8x to 32x	2.4x to 64x
Stemi 2000	Greenough	6.5x to 50x	1.95x to 250x
Stemi 2000C	Greenough	6.5x to 50x	1.95x to 250x
Stemi SV6	Telescope	8x to 50x	2.4x to 312x
Stemi SV11	Telescope	6x to 66x	1.8x to 412x

(1) Basic instrument (SV6 and SV11 with objective 1x)

(2) With exchangeable optics

Axioskop 40

The budget-priced entry into polarization microscopy

- Easy operation
- Reliable, even under heavy use
- For education and routine applications
- To examine materials such as thin sections of rocks, fibers, films, bio-crystals, paint pigments

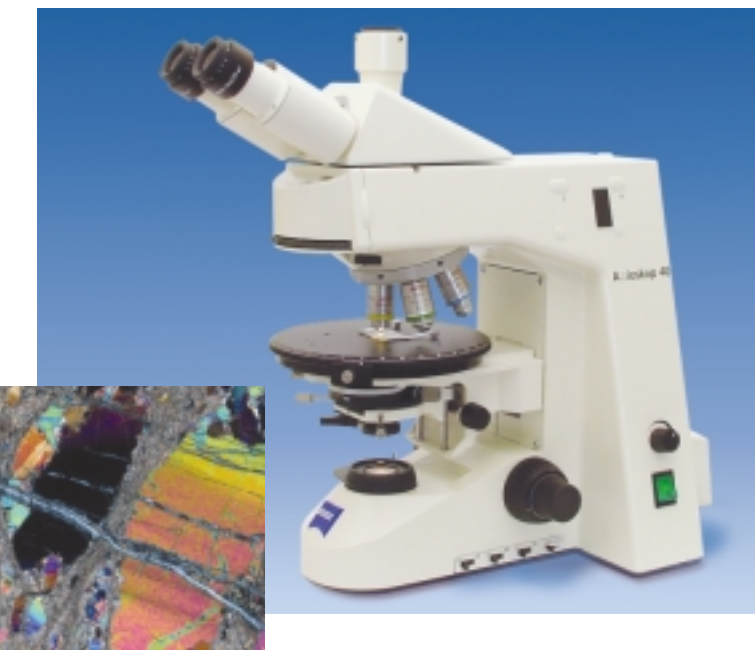


Stand	Transmitted light stand
Nosepiece	6-position H (W0.8)
Reflector turret	–
Contrast techniques	Transmitted light: Pol, H, D, Ph
Objectives	Transmitted light: CP-Achromat, CP-Achromat Pol
Condenser	Condenser 0.9 Z Pol with swing mechanism
Eyepieces	Field of view 20
Tubes	Bin- and trinocular tubes (Siedentopf principle), Pol phototube
Stage	Standard rotary stage Pol with stage clips
Illumination	Transmitted light: 12V 35W halogen

Axioskop 40 Pol

High standards

- Orthoscopy and conoscopy
- For training and routine applications in mineralogy and geology
- To examine polymers, composites, and glass



Stand	Transmitted light stand
Nosepiece	6-position Pol (5x H W0.8, 1x HD DIC M27)
Reflector turret	5-position, Push&Click
Contrast techniques	Transmitted light: Pol, H, D, Ph
Objectives	Transmitted light: CP-Achromat Pol, Plan-Neofluar Pol
Condenser	Achromatic-aplanatic system condenser with front lens 0.9 Pol
Eyepieces	Field of view 23
Tubes	Bin- and trinocular tubes (Siedentopf principle), Pol phototube, ergonomoy tubes
Stage	Medium rotary stage Pol with 45° click stops, attachable object guide Pol
Illumination	Transmitted light: 12V 35W halogen

Axioskop 40 A Pol

The specialist

- Quantitative polarization in transmitted and reflected light
- For materials labs, geology and mineralogy institutes, training and routine applications
- To examine composites, building materials, and ceramics



Stands	Transmitted and reflected light stand
Nosepiece	6-position Pol (5x H W0.8, 1x HD DIC M27)
Reflector turret	5-position, Push&Click
Contrast techniques	Transmitted light: Pol, H, D, Ph Reflected light: Pol, H, D, DIC, C-DIC, FI
Objectives	Transmitted light: CP-Achromat Pol, Plan-Neofluar Pol Reflected light: Epiplan Pol, EC Epiplan-Neofluar Pol
Condenser	Achrom.-aplan. system condenser with front lens 0.9 Pol
Eyepieces	Field of view 23
Tubes	Bin- and trinocular tubes (Siedentopf principle), Pol phototube, ergonomoy tubes
Stage	Medium rotary stage Pol with 45° click stops, attachable object guide Pol
Illumination	Transmitted light: 12V 35W halogen Reflected light: 12V 100W halogen

Axioplan 2 imaging Pol

The all-round expert

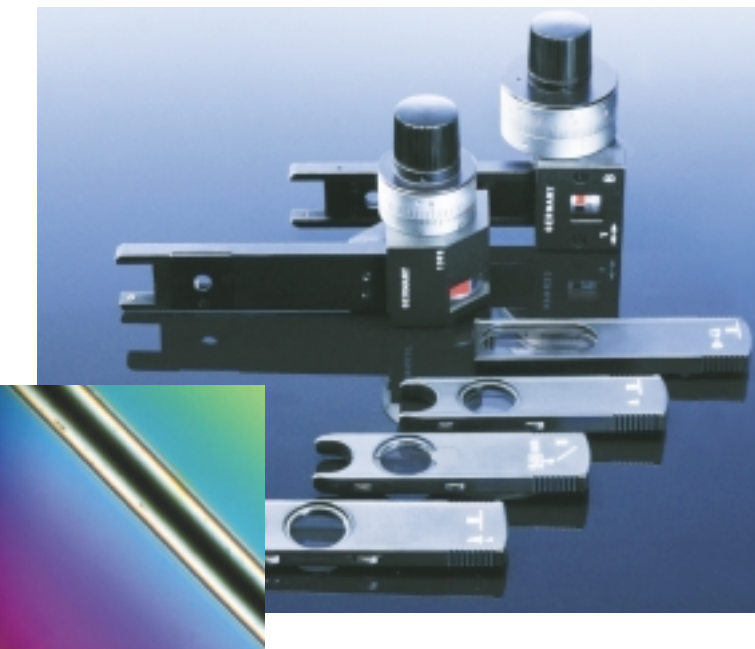
- Quantitative polarization in transmitted and reflected light
- For universities, industrial research and development
- To examine of glass and raw materials in mineralogy and crystallography



Stands	Transmitted, reflected, transmitted/reflected light stands
Nosepiece	6-position Pol (5x H W0.8, 1x HD DIC M27) cod
Reflectorturret	8-position, Push & Click, man/mot
Contrast techniques	Transmitted light: Pol, H, D, Ph Reflected light: Pol, H, D, DIC, C-DIC, FI
Objectives	Transmitted light: Plan-Neofluar Pol Reflected light: EC Epiplan-Neofluar Pol
Condenser	Achrom.-aplan. system cond. with front optics Pol 0.9 Pol
Eyepieces	Field of view 23
Tubes	Bin- and trinocular tubes, intermediate tube Pol
Stage	Advanced rotary stage Pol with 45° click stops and stage clips, attachable object guide Pol with click stop (0.5 mm)
Illumination	Transmitted light: 12V 100W halogen Reflected light: 12V 100W halogen

Compensators

- For the measurement of path differences in crystals, polymers, fibers, and films
- A wide spectrum for the range 0 to 30 λ



Compensators with fixed path difference

Compensator λ

Compensator $\lambda/4$

Compensator λ , rotary, $\pm 8^\circ$

Compensators with variable path difference

Wedge compensator 0-4 λ

• Measuring compensators







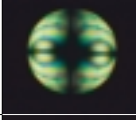
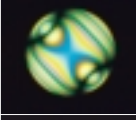
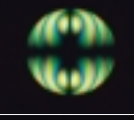



– Tilting compensator Berek 0-5 λ

– Tilting compensator Berek 0-30 λ

– Rotary compensator Brace-Köhler $\lambda/10$

– Sénarmont compensator 546/4

Linear or circular: Two types of polariza- tion

Polarization type of light			Rotation of microscope stage		
			0°	45°	90°
Orthoscopy	Zircon	linear			
		circular			
Conoscopy	Muscovite	linear			
		circular			

The polarization microscopes from Carl Zeiss provide you with a broad range of fixed and rotatable polarizers for transmitted and reflected light. The circular polarizer is an additional useful innovation. The difference to today's largely used linear polarization? Sample structures that formerly were visible only in a certain direction can now be seen in their entirety – regardless of their orientation and without rotating the sample stage. The advantages are obvious – not only for the microphotography of thin sections of rock but also for the examination of structures in polymers and strain distribution in glass with image analysis. In addition, the measurement of the angle of the 2V axis in mineral determination is significantly more precise.

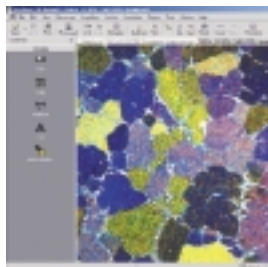
AxioVision 4

The imaging software

Thanks to its flexible expandability, AxioVision 4 is the ideal tool for efficient routine applications in the lab as well as for high-end image processing. It delivers powerful performance, ranging from simple image acquisition to completely automatic material evaluation.

Its functions:

- image acquisition
- image processing
- annotations
- image analysis
- documentation and archiving



AxioVision solutions for particle analysis:

- **AxioVision Multiphase**

Completely automatic measurement of particle sizes and volume percentage

- **AxioVision Grains**

Automatic analysis according to DIN 50601 and ASTM E112

- **AxioVision Graphite**

Analysis of form and size of graphite particles (nodular graphite, lamellar graphite)



AxioCam

The digital camera family

- Outstanding image quality in monochrome and color
- Optimized operation
- C-Mount for 2/3" CCD sensor with 0.63x or 1.0x adaptation
- Seamless integration into AxioVision software

Models:

AxioCam HRc / HRm	AxioCam MRc / MRm
High resolution (up to 12 mega pixel) and dynamics (14 bit AD conversion)	High resolution (1.3 mega pixel) and high dynamics (12 bit AD conversion)

At a glance: Techniques and accessories

		Axioskop 40	Axioskop 40 Pol	Axioskop 40 A Pol	Axioplan 2 imaging Pol
Transmitted light	Brightfield (H)	•	•	•	•
	Polarization (Pol)	•	•	•	•
	Circular polarization (C-Pol)		•	•	•
	Darkfield (D)	•	•	•	•
	DIC		•	•	•
	Phase contrast (Ph)	•	•	•	•
	Orthoscopy	•	•	•	•
	Conoscopy				
	Auxiliary microscope	•	•	•	•
	Bertrand lens module		•	•	•
	Intermediate tube Pol		•	•	•
Reflected light	Brightfield (H)			•	•
	Polarization (Pol)			•	•
	DIC			•	•
	C-DIC			•	•
	Darkfield (D)			•	•
Documentation	AxioCam camera family	•	•	•	•
	Video camera	•	•	•	•
Compensator	Compensator λ	•	•	•	•
	Compensator $\lambda/4$		•	•	•
	Wedge compensator 0-4 λ		•	•	•
	Berek compensator 0-5 λ		•	•	•
	Berek compensator 0-30 λ		•	•	•
	Comp. Brace Köhler $\lambda/10$		•	•	•
	Sénarmont 546/4		•	•	•
	Measuring analyzer 180°		•	•	
Measuring analyzer 360°				•	
Rotary stage	Standard	•	•		
	Medium	•	•	•	•
	Advanced		•	•	•
TIC			•	•	
Microhardness tester MHT 10			•	•	
Heating stages/chambers	•	•	•	•	

**Carl Zeiss
Light Microscopy**

P.O.B. 4041
37030 Göttingen
GERMANY
Phone: +49 551 50 60 660
Telefax: +49 551 50 60 464
E-Mail: micro@zeiss.de

Subject to change

www.zeiss.de/mat

Printed on environment-friendly
paper, bleached without the use
of chlorine.

46-0020 e 10.2002