

## Literaturverzeichnis zu den Themen unserer Internet-Seiten

Auf dieser Seite haben wir für unsere Internet-Besucher wichtige Literatur zur Elektronenmikroskopie und zur Elektronenstrahl-Mikroanalyse zusammengestellt.

### Rasterelektronenmikroskopie, allgemein

FLEGLER, Stanley L.; HECKMAN, John W.; KLOMPARENS, Karen L. (1995):

Elektronenmikroskopie. Grundlagen, Methoden, Anwendungen. - 279 S., H (Spektrum Akademischer Verlag).

GLAUERT, A.M. (1974): Practical methods in electron microscopy. Vol.II. - (Elsevier).

GOLDSTEIN, J.I.; NEWBURY, D.E.; ECHLIN, P.; JOY, D.C.; FIORI, C. & LIFSHIN, E. (1992):

Scanning electron microscopy and x-ray microanalysis. - 2nd ed., 820 pp., New York (Plenum Press).

*Umfassendes Standardwerk*

GOODHEW, P.J. & HUMPHREYS, F.J. (1988): Electron microscopy and analysis. - XII + 232 pp., London (Taylor & Francis).

GRASENICK, F. et al. (1991): Elektronenmikroskopie. Erweiterte Einsatzmöglichkeiten durch neue Entwicklungen und spezielle Abbildungs- und Präparationsmethoden. - 303 pp., Ehningen b. Böblingen (expert Verlag).

*Für fortgeschrittene Anwender geeignet*

JOY, D.C. (1975): The observation of crystalline materials in the scanning electron microscope (SEM).

- J. Microsc., 103, 1-23. KAY, D.H. (1965): Techniques for electron microscopy. - 2nd ed., XIV+560 pp., Oxford (Blackwell).

LANGE, R.H. & BLÖDORN, J. (1981): Das Rasterelektronenmikroskop. TEM + REM.

Leitfaden für Biologen und Mediziner. - 327 pp., Stuttgart (Thieme).

*Schwerpunkt bei Anwendungen aus der Biologie*

LYMAN, C. E. (1990): Scanning electron microscopy, X-ray microanalysis and analytical electron microscopy.

A laboratory workbook. - XI, 407 S., New York (Plenum Press).

*Gute Darstellung aller Techniken*

OHNSORGE, J. (1978): Rasterelektronenmikroskopie. - Stuttgart (Thieme).

MALIN, D.F. (1975): Photographic aspects of scanning electron microscopy. - J. Microsc., **103**, 79-87.

POSTEK, M.T.; HOWARD, K.S.; JOHNSON, A.H. & McMICHAEL, K.L.: Scanning electron microscopy.

REIMER, L. & PFEFFERKORN, G. (1977). Rasterelektronenmikroskopie. - 2. ed., XI + 282 pp., Berlin (Springer).

*Erstes umfassendes Standardwerk, vergriffen*

REIMER, L. (1985): Scanning electron microscopy. Physics of image formation and microanalysis.

- XVIII+457 pp., Berlin (Springer).

SCHMIDT, Peter F. (1994): Praxis der Rasterelektronenmikroskopie und Mikrobereichsanalyse.

- 810 pp., Kontakt & Studium, 444, Renningen (expert Verlag).

*Schwerpunkt bei Anwendungen aus der Werkstofftechnik*

WATT, I.M. (1985): The principles and practice of electron microscopy.- VIII + 303 pp.,

Cambridge (Cambridge University Press).

*Gute Zusammenfassung*

## **EDX-Analytik**

DUNHAM, A.C. & WILKINSON, F.C.F. (1978): Accuracy, precision and detection limits of energy-dispersive electron-microprobe analysis of silicates.- X-ray spectrom., **7**, 50-55.

RUSS, J.C. (1984): Fundamentals of energy-dispersive X-ray analysis.- London (Butterworths).

## **WDX-Analytik**

ALBEE, A.L. & RAY, L. (1970): Correction factors for electron probe microanalysis of silicates, oxides, carbonates, phosphates, and sulfates.- Anal. Chem., **42**, 1408-1414.

BASTIN, G.F. & HEIJLIGERS, H.J.M. (1991): Quantitative electron probe microanalysis of nitrogen.  
- Scanning, **13**, 325- 342.

CLIFF, G. & LORIMER, G.W. (1975): The quantitative analysis of thin specimens. - J. Microsc., **103**, 203-207.

DROOP, G.T.R. (1987): A general equation for estimating Fe<sup>3+</sup> concentrations in ferromagnesian silicates and oxides from microprobe analyses, using stoichiometric criteria. - Mineralogical Magazine, **51**, 431-435.

FIALIN, M. (1988): Modification of Philibert-Tixier ZAF correction for geological samples. - X-ray spectrom., **17**, 103-106.

GOODHEW, P.J. & GULLEY, J.E.C. (1975): The determination of alkali metals in glasses by electron microprobe analysis. - Glass Technol., **15**, 123-126.

HARRIS, D.E. (1990): Electron-microprobe analysis. - In: Advanced microscopic studies of ore minerals (J.L LAMBOR & D.J VAUGHAN eds.), Mineral. Assoc. Canada Short Course Handbook, **17**, 319-339, Ottawa.

HEINRICH, K.F.J. & NEWBURY, D.E. (1991): Electron probe quantification. - New York (Plenum Press).

HREN, J.J.; GOLDSTEIN, J.I. & JOY, D.C. (1979): Introduction to analytical electron microscopy. - New York (Plenum Press).

JOY, D.C.; ROMIG, A.D. & GOLDSTEIN, J.I. (1986): Principles of analytical electron microscopy. - New York (Plenum Press).

KERRICK, D.M.; EMINHIZER, L.B. & VILLAUME, J.F. (1973): The role of carbon film thickness in electron microprobe analysis. - Amer. Mineral., **79**, 745-749.

LAFLAMME, J.H.G. (1990): The preparation of materials for microscopic study.  
- In: Advanced microscopic studies of ore minerals (J.L LAMBOR & D.J VAUGHAN eds.), Mineral. Assoc. Canada Short Course Handbook, **17**, 37-68, Ottawa.

LANE, S.J. & DALTON, J.A. (1994): Electron microprobe analysis of geological carbonates.  
- Amer. Mineral., **79**, 745- 749.

LLOYD, G.E.; SCHMIDT, N.-H.; MAINPRICE, D. & PRIOR, D.J. (1991): Crystalline textures.  
- Mineral. Mag, **55**, 331-345.

LOHNES, R.A. & DEMIREL, T. (1978): SEM applications in soil mechanics. - Scann. Electron Microsc., 1978/I, 643-654.

MARINENKO, R.B.; MYKLEBUST, R.L.; BRIGHT, D.S. & NEWBURY, D.E. (1987): Digital X-ray compositional mapping with „standard map“ corrections for wavelength-dispersive spectrometer defocusing. - J. Microsc., **145**, 207-223.

MORGAN, A.J.: X-ray microanalysis in electron microscopy for biologists.  
- The royal Microscopical Society laboratory series of handbooks on microscopy.

PETRUK, W. (1988): The capabilities of the microprobe Kontron image analysis system: application to mineral beneficiation. - Scann. Microsc., **2**, 1247-1256.

- PLESCH, R. (1978): Praktische Fehlertheorie der Röntgenspektrometrie. - X-ray spectrom., **7**, 156-159.
- POTTS, P.J.; BOWLES, J.F.W.; REED, S.J.B. & CAVE, M.R. (1995): Microprobe techniques in the earth sciences. - The Miner. Soc. Series, **6**, XII + 419 pp., London (Chapman Hall).
- POTTS, P.J.; TINDLE, A.G. & ISAACS, M.C. (1983): On the precision of electron microprobe data: a new test for the homogeneity of mineral standards. - Amer. Mineral., **68**, 1237-1242.
- POTTS, P.J.; TINDLE, A.G. & STANFORD, D. (1995): A new procedure for relocating mineral grains for microprobe analysis. - Mineralogical Magazine, **59**, 221-228.
- POTTS, P.J. & TINDLE, A.G. (1991): Evaluation of spectrum overlap correction in energy-dispersive X-ray spectrometry using the digital filter deconvolution procedure: application to selected interferences encountered in the microprobe analysis of minerals. - X-ray Spectrom., **20**, 119-129.
- PURVIS, K. (1991): Fibrous clay mineral collapse produced by beam during scanning electron microscopy. - Clay Minerals, **26**, 141-145.
- REED, S.J.B. & WARE, N.G. (1975): Quantitative electron microprobe analysis of silicates using energy-dispersive X-ray spectrometry. - J.Petrol., **16**, 499-519.
- REED, S.J.B. (1990): Fluorescence effects in quantitative microprobe analysis. - In: Microbeam analysis (D.B. WILLIAMS; P. INGRAM & J. MICHAEL eds.), 109-114, San Francisco (San Francisco Press).
- REED, S.J.B. (1993): Electron microprobe analysis. - 2. ed., XVIII, 326 S., Cambridge (Cambridge University Press).
- REED, S.J.B. (1996): Electron microprobe analysis and scanning electron microscopy in geology. - XII, 201 S., Cambridge (Cambridge Univ. Press).  
*Gutes Standardwerk*
- RICHARD, L.R. & CLARKE, D.B. (1990): AMPHIBOL: A program for calculating structural formulae and for classifying and plotting chemical analyses of amphiboles. - Amer. Mineral., **75**, 421-423.
- ROBINSON, W.E.; CUTMORE, N.G. & BURDON, R.G. (1984): Quantitative compositional analysis using a backscattered electron signal in a scanning electron microscope. - Scann. Electron Microsc., 1984/II, 483-492.
- RUCKLIDGE, J.C.; GIBB, F.G.F.; FAWCETT, J.J. & GASPARINNI, E.L. (1970): Rapid rock analysis by electron microprobe. - Geochim. Cosmochim. Acta, **34**, 243-247.
- SAIMOTO, S.; HELMSTAEDT, H.; KEMPSON, D. & SCHULSON, E.M. (1980): Electron channelling and its potential for petrographic studies. - Canad. Mineral., **18**, 251- 259.
- SCOTT, V.D.; LOVE, G. & REED, S.J.B. (1995): Quantitative electron probe microanalysis. - 2. ed., XIV, 311 S., New York (Ellis Horwood).
- SMELLIE, J.A.T. (1972): Preparation of glass standards for the use in X-ray microanalysis. - Mineralogical Magazine, **38**, 614-617.
- WARE, N.G. (1991): Combined energy-dispersive-wavelength- dispersive quantitative electron microprobe nalysis. - X-ray Spectrom., **20**, 73-79.
- WICKS, F.J. & PLANT, A.G. (1983): The accuracy and precision of routine energy-dispersive electron microprobe analysis of serpentine. - X-ray Spectrom., **12**, 59-66.
- WILLIAMS, D.B.; INGRAM, P. & MICHAEL, J. eds. (1990): Microbeam analysis. - San Francisco (San Francisco Press).

## **Anwendungen in der Werkstofftechnik**

DVM (Hrsg.) (1982): Materialkundliche Gefüge-, Bruch- und Oberflächenuntersuchungen in Produktion und Schadensforschung. 355 S. Berlin (Deutscher Verband für Materialprüfung e.V.).

ENGEL, L.; KLINGELE, H.; EHRENSTEIN, G.; SCHAPER, H. (1978): Rasterelektronenmikroskopische Untersuchungen von Kunststoffschäden. - 264 S., München, Wien (Hanser Verlag).

ENGEL, L.; KLINGELE, H. (): Rasterelektronenmikroskopische Untersuchungen von Metallschäden. München, Wien (Hanser Verlag).

GORFU, Paulos (1992): Untersuchung von Dünnschichtsystemen mittels Elektronenstrahl-Mikroanalyse. - 95 S., Diss. Techn. Univ. Dresden.

THOMPSON-RUSSELL, K.C. & EDINGTON, J.W. (1977): Electron microscope specimen preparation techniques in material science. - Monographs in Practical Electron microscopy in Material Science.

UHLIG, Wolfgang (1986): Schadensanalyse Systematik - Methoden - Werkstofftechnische Bewertungen. 135 S., Berlin (VEB Verlag Technik).

VDE, DVM, DGM (Hrsg.) (1983): Riß;- und Brucherscheinungen bei metallischen Werkstoffen / The Appearance of Cracks and Fractures in Metallic Materials. 68 S., Düsseldorf (Verlag Stahleisen).

YACOBI, B.G. ed. (1994): Microanalysis of solids. - XIII, 460 S., New York (Plenum Press).

## **Anwendungen in den Geowissenschaften**

ABRAHAM, K.; SCHREYER, W. (1973): Elementverteilung in koexistierenden Festkörperphasen. - 101 S., Opladen (Westdeutscher Verlag).

BEUTELSPACHER, H. & van der MAREL, H.W. (1968): Atlas of electron microscopy of clay minerals and their admixtures - A picture atlas . - 333 pp., Amsterdam (Elsevier).

BLASCHKE, R. (1970): Spezifische Oberflächen und Grenzflächen der Mineralphasen als Gefügeparameter. - Fortschr. Miner., **47**, 197-241, Stuttgart.

GOLUBIC, S.; BRENT, G. & LECAMPION, T. (1975): Scanning electron microscopy of endolithic algae and fungi using a multipurpose casting-embedding technique. - Lethaia, **3**, 203-209, Oslo.

JORDAN, P.G.; DÜGGELIN, M.; MATHYS, D. & GUGGENHEIM, R. (1991): Gypsum-anhydrite differentiation by SEM using the back-scattered electron signal. - J. Sediment. Petrol., **61**, 616-618.

LINDE, Krister (1984): Scanning electron microscope studies of different sands and silts. - Acta Universitatis Upsaliensis (Abstr. of Uppsala diss. from the Faculty of Science), **748**, 1-10, Uppsala.

McHARDY, W.J. & BIRNIE, A.C. (1987): Scanning electron microscopy.- In: A handbook of determinative methods in clay mineralogy (M.J.WILSON ed.), 173-208, Glasgow (Blackie).

NADEAU, P.H. & HURST, A. (1991): Application of back-scattered electron microscopy to the quantification of clay mineral microporosity in sandstones. - J. Sediment. Petrol., **61**, 616-618.

SMART, & TOVEY, N.K. (1981): Electron microscopy of soils and sediments - examples. - 178 pp., Oxford (Clarendon Press).

SMART, P. & TOVEY, N.K. (1982): Electron microscopy of soils and sediments: Techniques. - Oxford (Oxford Univ. Press).

TREWIN, N.H. (1988): Use of the scanning electron microscope in sedimentology.- In: Techniques in sedimentology (M. TUCKER ed.), 229-273, Oxford (Blackwell).  
*Schneller, gründlicher Überblick*

WILSON, M.D. & E.D. PITTMAN (1977): Authigenic clays in sandstone.- recognition and influence on reservoir properties and paleoenvironmental analysis. - J. Sediment. Petrol., **47**, 1, 3-31.