

Symmetri: Web-sider

- Wallpaper groups and related topics
- Links to websites featuring symmetry
- Mathematics in Art and Architecture
- Symmetry in Architecture
- The Four Types of Symmetry in the Plane
- Introduction to Tilings
- Wallpaper Groups
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- Totally tessellated
- Symmetry and Pattern: The Art of Oriental Carpets
- Symmetric Patterns at the Alhambra
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- Plane groups, wallpaper pattern, symmetry
- Escher Web Sketch
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- Crystallography
- Introduction to Crystallography and Mineral Crystal Systems
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- Wikipedia – Space group
- Wikipedia – Crystal system
- ix-quadrat: Symmetrie – Perspektiven von Escher
- Symmetry - Reflection and Rotation
- Group theory and Islamic tilings

Litteratur

- [1] S.J. Abas, A.S. Salman, *Symmetries of Islamic Geometrical Patterns*, Singapore: World Scientific, 1995
- [2] M.A. Armstrong, *Groups and Symmetry*, Undergraduate Texts in Mathematics, New York etc.: Springer-Verlag, 1988
- [3] J.A. Baglivo, J. E. Graver, *Incidence and symmetry in science and art*, London: Cambridge Press, 1983
- [4] K. Bongartz, W. Borho, D. Mertens, A. Steins, *Farbige Parkette*, Basel etc.: Birkhäuser, 1988
- [5] E. Brieskorn, *Lineare Algebra und Analytische Geometrie I,II*, Braunschweig etc.: Vieweg, 1983, 1985
- [6] B. Bunch, *Reality's Mirror- Exploiting the Mathematics of Symmetry*, New York etc.: Wiley, 1989
- [7] J.J. Burckhardt, *Die Bewegungsgruppen der Krystallographie*, Basel etc.: Birkhäuser, 1966
- [8] R.L. Carter, *Molecular Symmetry and Group Theory*, New York: Wiley, 1998
- [9] J.H. Conway, H. Burgiel. C. Goodman-Strauss, *The Symmetries of Things*, A.K. Peters, Wellesley, 2008
- [10] H. S. M. Coxeter, *Introduction to Geometry*, 2d ed., New York: Wiley, 1969
- [11] H. S. M. Coxeter et al. (eds.), *M. C. Escher, Art and Science*, Amsterdam etc.: Elsevier (North-Holland), 1986
- [12] P.R. Cromwell, *The Search for Quasi-Periodicity in Islamic 5-fold Ornament*, Math. Intelligencer **31** (2009), 36 – 56.
- [13] F. Cucker, *Manifold Mirrors. The Crossing Paths of the Arts and Mathematics*, Cambridge Univ. Press, 2013
- [14] G. Darvas, *Symmetry*, Birkhäuser, 2007.
- [15] A. Dress, Repetition und Metamorphose - zum Symmetriebegriff der Mathematik.
- [16] A. Dress, D. Huson, Heaven and Hell Tilings, Structural Topology **17** (1990)
- [17] S.V. Duzhin, B.D. Chebotarevsky, *Transformation Groups for Beginners*, AMS, 2004
- [18] P. Engel, *Geometric Crystallography*, Dordrecht: Reidel, 1986

- [19] B. Ernst, *The Magic Mirror of M. C. Escher*, New York: Random House, 1976
- [20] D.W. Farmer, *Groups and Symmetry: A Guide to Discovering Mathematics*, Mathematical World **5** Providence: Amer. Math. Soc., 1996
- [21] M. Field, M. Golubitsky, *Symmetry in Chaos*, Oxford University Press, 1992
- [22] D. V. Fomin, Getting it together with “polyominoes”, *Quantum* **2**, no.2, pp. 20-23
- [23] M. Gardner, *The New Ambidextrous Universe: Symmetry and Asymmetry from Mirror Reflections to Superstrings*, New York: Friedman, 1990
- [24] B. Grünbaum, The Emperor’s New Clothes: Full Regalia, G String, or Nothing, *The Mathematical Intelligencer* **6**, 47-53(1984)
- [25] B. Grünbaum, What Symmetry Groups are Present at the Alhambra, *Notices Amer. Math. Soc.* **53**(6), 670-673(2006)
- [26] B. Grünbaum, C. G. Shephard, The eighty-one types of isohedral tilings in the plane, *Math. Proc. Camb. Phil. Soc.* **82**, 177-196(1977)
- [27] B. Grünbaum, C. G. Shephard, *Tilings and Patterns*, New York: W. H. Freeman and Company, 1987
- [28] D.L. Johnson, *Symmetries*, Springer-Verlag, 2001
- [29] V. L. Hansen, *Den geometriske dimension: fra iagttagelse til forskning*, København, 1989
- [30] I. Hargittai, *Symmetry 1, 2: Unifying Human Understanding*, Int. Ser. Mod. Appl. Math. & Comp. Sc. **12b, 18**, 1986, 1989, London: Pergamon
- [31] D. R. Hofstadter, Gödel, *Escher, Bach : an eternal golden brain*, New York: Basic Books, 1979
- [32] S. G. Hoggar, *Mathematics for Computer Graphics*, Cambridge University Press, 1992
- [33] A. Holden, *Shapes, Space, and Symmetry*, Dover, 1991
- [34] M. Holt, *Mathematics in Art*, New York: Van Norstrand, 1971
- [35] B. Hylleberg, M. Jensen, K. Johansen, K. Walter, *Tapetmønstre – analyse og programmering*, Projektrapport, MAT3, AUC, 1991
- [36] L.C. Kinsey, T.E. Moore, E. Prassidis, *Geometry and Symmetry*, Wiley, 2010
- [37] M. Klemm, *Symmetrien von Ornamenten und Kristallen*, Hochschultext, Berlin etc.: Springer-Verlag 1982

- [38] M. F. C. Ladd, *Symmetry in Crystals and Molecules*, Ellis Horwood, 1992
- [39] E. H. Lockwood, R. H. Macmillan, *Geometric Symmetry*, London: Cambridge Press, 1978
- [40] A. L. Loeb, *Color and Symmetry*, New York: Wiley-Interscience, 1971
- [41] R.C. Lyndon, *Groups and Geometry*, Cambridge Univ. Press, 1985
- [42] C. MacGillavery, *Fantasy and Symmetry: The Periodic Drawings of M.C. Escher*, Harry N. Abrams, 1976
- [43] G. E. Martin, *Transformation Geometry*, Undergraduate Texts in Mathematics, New York etc.: Springer-Verlag, 1982
- [44] Eli Maor, *To Infinity and Beyond*, Princeton University Press, 1991
- [45] T. Mayer-Kuckuk, *Der gebrochene Spiegel*, Basel etc.: Birkhäuser, 1989
- [46] W. Miller, *Symmetry groups and their applications*, London: Academic Press, 1972
- [47] J. M. Montesinos, *Classical Tessellations and Three-Manifolds*, Universitext, Berlin etc.: Springer-Verlag 1987
- [48] P.J. Morandi, *The Classification of Wallpaper Patterns: From Group Cohomology to Escher's Tessellations*, New Mexico State University
- [49] P.J. Morandi, *Symmetry Groups: Classification of Wallpaper Patterns*, New Mexico State University
- [50] D. Mumford, C. Series, D. Wright, *Indra's Pearls: The Vision of Felix Klein*, Cambridge Univ. Press 2002
- [51] P.M. Neumann, G.A. Stoy, E.C. Thompson, *Groups and Geometry*, Oxford University Press, 1994
- [52] V. V. Nikulin, I. R. Shafarevich, *Geometries and Groups*, Universitext, Berlin etc.: Springer-Verlag 1987
- [53] J. Pedersen, *Geometry: The Unity of Theory and Practice*, The Mathematical Intelligencer **5**, no.4, 37-49(1983)
- [54] H. O. Peitgen, P. H. Richter *The beauty of fractals*, Berlin etc.: Springer-Verlag 1986
- [55] F. C. Philips, *Introduction to crystallography*, Oliver & Boyd, 1971
- [56] Ch. Radin, *Miles of Tiles*, Student Mathematical Library **1**, AMS, 1999

- [57] E. R. Ranucci, J. L. Teeters, *Creative Escher-type Drawings*, Palo Alto:Creative Publications, 1977 (se også literaturlisten der)
- [58] B. I. Rose, R. D. Stafford, An elementary course in mathematical symmetry, Am. Math. Monthly **81**, 59-63(1981)
- [59] D. Schattschneider, The Plane Symmetry Groups: Their recognition and notation, Am. Math. Monthly **85**, 439-450(1978)
- [60] D. Schattschneider, *M.C. Escher, Visions of Symmetry*, New York: Freeman, 1990
- [61] D. Schattschneider, The Mathematical Side of M.C. Escher, Notices AMS **57**, no. 6, 706 – 718 (2010)
- [62] D. Schattschneider, W. Walker, *M. C. Escher Kaleidozyklen*, TACO, 1987
- [63] R. L. E. Schwarzenberger, The 17 plane symmetry groups, Mathematical Gazette **58**, 123-131 (1974)
- [64] R. L. E. Schwarzenberger, Colour Symmetry, Bulletin of the London Mathematical Society **16**, 209-240(1984)
- [65] R. L. E. Schwarzenberger, *N-dimensional crystallography*, Research Notes in mathematics, Pitman, 1980
- [66] M. Senechal, Color Groups, Discrete Applied Mathematics **1**, 51-73(1979)
- [67] A. V. Shubnikov, V. A. Koptsik, *Symmetry in Science and Art*, New York: Plenum Press
- [68] A. Sosinsky, Marching orders, Quantum **2**, no.2, pp. 6-11
- [69] A. Szczepański, *Geometry of crystallographic groups*, World Scientific, 2012
- [70] P. Stevens, *Handbook of Regular Patterns*, MIT Press, 1988
- [71] I. Stewart, M. Golubitsky, *Fearful Symmetry*, Blackwell, 1992
- [72] K. Tapp, *Symmetry. A Mathematical Exploration*, Springer-Verlag, 2012
- [73] R.N. Umble, Z. Han, *Transformational Plane Geometry*, Chapman and Hall/CRC, 2015
- [74] D. Washburn, D. Crowe, *Symmetries of Culture*, University of Washington Press, 1988
- [75] H. Weyl, *Symmetrie*, Basel etc.: Birkhäuser, 1955, 1981
- [76] T. W. Wieting, *The mathematical theory of chromatic plane ornaments*, New York etc.: Marcel Dekker, 1982