

Bibliographie

- [1] Hohenemser K., Prager W., The problem of fatigue strength under complex stresses. Metallwirtschaft, June 1933, Bd. XII, Heft 24, pp. 342-343.
- [2] Gough H.J., Pollard H.V., The strength of metals under combined alternating stresses. Proceedings of the Institution of Mechanical Engineers, London, November 1935, Vol. 131, N° 3, pp.1-103.
- [3] Gough H.J., Pollard H.V., Clenshaw W.J., Some experiments on the resistance of metals to fatigue under combined stresses. Aeronautical Research Council, Report and Memoranda N° 2522, London : HMSO, 1951, 141 p.
- [4] Lee S.B., Evaluation of Theories on Multiaxial Fatigue with Discriminating Specimens. Ph.D. Thesis, Stanford University, 1980, 174 p.
- [5] Lee S.B., A criterion for fully reversed out-of phase torsion and bending. ASTM STP 853, K.J. Miller and M.W. Brown Eds., Philadelphia : American Society for Testing and Materials, 1985, pp. 553-568.
- [6] Lee S.B., Biaxial and multiaxial fatigue. London : Mechanical Engineering Publication, 1989, pp. 621.
- [7] You B.R. and Lee S.B., A critical review on multiaxial fatigue assessments of metals. Int. J. Fatigue, 1996, Vol. 18, N° 4, pp. 235-244.
- [8] Davies V.C., Discussion of "The strength of metals under combined alternating stresses" by Gough H.J. and Pollard H.V. Proceedings of the Institution of Mechanical Engineers, 1935, Vol. 131, N° 3.
- [9] Nishihara T., Kawamoto M., The strength of metals under combined alternating bending and torsion. Memoirs of the College of Engineering, Kyoto Imperial University, 1941, Vol. 10, N° 6, pp.177-201.
- [10] Nishihara T., Kawamoto M., The strength of metals under combined alternating bending and torsion with phase difference. Memoirs of College of Engineering, Kyoto Imperial University, 1945, Vol. 11, N° 5, pp. 85-112.
- [11] Weber B., Kenmeugne B., Clement J.C., Robert J.L., Improvements of multiaxial fatigue criteria for a strong reduction of calculation duration. Computational Materials Science 1999, à paraître.
- [12] Stulen F.B., Cummings H.N., A failure criterion for Multiaxial Fatigue Stresses. Proceedings of American Society for Testing and Materials. Philadelphia, 1954, Vol. 54, pp. 822-835.
- [13] Findley W.N., Fatigue of metals under combinations of stresses. Transactions of the American Society of Mechanical Engineers, 1957, Vol. 79, pp. 1337-1348.

- [14] Yokobori T., Yoshimura T., A criterion for fatigue fracture under multiaxial alternating stress state. Institute for Strength and Fracture of Materials, Tohoku University, Sendai, Japan, 1966, Report of Research.
- [15] McDiarmid D.L., A general criterion of fatigue failure under multiaxial stress. Proceedings of Second International Conference on Pressure Vessel Technology, American Society of Mechanical Engineers, San Antonio, Texas, U.S.A, 1973, Vol. II-61, pp. 851-862.
- [16] McDiarmid D.L., A new analysis of fatigue under combined bending and twisting. The Aeronautical Journal of the Royal Aeronautical Society, 1974, Vol. 78, N° 763, pp. 325-329.
- [17] Dang Van K., Sur la résistance à la fatigue des métaux. Sciences et techniques de l'Armement, 1973, N° 47, 3^{ème} fascicule, pp. 641-722.
- [18] Dang Van K., Le Douaron A. and Lieurade H.P., Multiaxial fatigue limit : a new approach. Advances in Fracture Research, 6th Int. Conf. Fracture, New Dehli, 1984, pp. 1879-1885.
- [19] Mataka T., An explanation on fatigue limit under combined stress. Bulletin of the Japan Society of Mechanical Engineers, 1977, Vol. 20, N° 141, pp. 257-263.
- [20] Mataka T., Fatigue strength of notched specimen under combined stress. Bulletin of the Japan Society of Mechanical Engineers. 1980, Vol. 23, N° 179, pp. 623-629.
- [21] Flavenot J.F., Skalli N., L'épaisseur de couche critique ou une nouvelle approche du calcul en fatigue des structures soumises à des sollicitations multiaxiales. Senlis : CETIM, Septembre 1982, Rapport 12G254.
- [22] Flavenot J.F., Skalli N., L'épaisseur de couche critique ou une nouvelle approche du calcul en fatigue des structures soumises à des sollicitations multiaxiales. Commission de Fatigue des Métaux, Amorçage des Fissures sous Sollicitations Complexes, Paris, 1984, pp. 87-97.
- [23] Dang Van K., Griveau B., Messager O., On a new multiaxial fatigue criterion : theory and application. Biaxial and Multiaxial Fatigue. EGF 3 (Edited by M.W. Brown and K.J. Miller), London : Mechanical Engineering Publications, 1989, pp. 479-496.
- [24] Froustey C., Fatigue multiaxiale en endurance de l'acier 30NCD16. Thèse de l'ENSAM, Talence, Septembre 1987, 131 p.
- [25] Munday E.G., Mitchell L.D., The maximum-distorsion-energy ellipse as a biaxial fatigue criterion in view of gradient effects. Experimental Mechanics, 1989, Vol. 29, pp. 12-15.
- [26] Galtier A., Séguret J., Critères multiaxiaux en fatigue: exploitation en bureau d'étude. Proposition d'un nouveau critère, Revue Française de Mécanique, 1990, N° 4, pp. 291-299.
- [27] Galtier A., Contribution à l'étude de l'endommagement des aciers sous sollicitations uni ou multi-axiales. Thèse de l'ENSAM, Talence, Mai 1993, 342 p.
- [28] Deperrois A., Sur le calcul des limites d'endurance des aciers. Thèse de l'Ecole Polytechnique, Palaiseau, Juin 1991, 259 p.

- [29] Robert J.L., Contribution à l'étude de la fatigue multiaxiale sous sollicitations périodiques ou aléatoires. Thèse de l'Institut National des Sciences Appliquées (INSA) de Lyon, N°ordre 92 ISAL 0004, Janvier 1992, 229 p.
- [30] Sines G., Failure of materials under combined repeated stresses with superimposed static stress. November 1955, Washington : NACA Technical Note 3495, 69 p.
- [31] Sines G., Behavior of metals under complex static and alternating stresses. Metal Fatigue - New-York : Mac Graw-Hill, Book Company, 1959, pp. 145-169.
- [32] Sines G., Ohgi G., Fatigue criteria under combined stresses or strains. Journal of Engineering Materials and Technology, 1981, Vol.103, pp. 82-90.
- [33] Crossland B., Effect of large hydrostatic pressures on the torsional fatigue strength of an alloy steel. Institution of Mechanical Engineers, International Conference on Fatigue on Metals, London, 1956, pp. 138-149.
- [34] Crossland B., The effect of pressure on the fatigue of metals. In Mechanical Behaviour of Materials under Pressure, Pugh H.L.I.D. (ed), Amsterdam : Elsevier, 1970, pp. 299-354.
- [35] Marin J., Interpretation of fatigue strengths for combined stresses. Proceedings of the International Conference on Fatigue of Metals, Institution of Mechanical Engineers, London, 1956, pp. 184-194.
- [36] Deitman H., Issler L., Strength calculation under multiaxial out-of-phase fatigue loading. Proceedings of the Sixth Congress on Materials Testing, Budapest, 1974.
- [37] Grübisic V., Simbürger A., Fatigue under combined out-of-phase multiaxial stresses. Proceedings of the International Conference on Fatigue Testing and Design, Society of Environmental Engineers, London, April 1976, Vol. 2, pp. 27.1-27.28.
- [38] Simbürger A., Festigkeitsverhalten zäher werkstoffe bei einer mehrachsigen phasenverschobenen schwingbeanspruchung mit körperfesten und veränderlichen hauptspannungsrichtungen. L.B.F., Darmstadt, Bericht, 1975, Nr.FB-121, 247 p.
- [39] Smith J.O., The effect of range of stress on fatigue strength of metals. University of Illinois, Engineering Experiment Station, February 1942, Bulletin 334, Vol. 39, N° 26
- [40] Papadopoulos I.V. - Fatigue polycyclique des métaux: une nouvelle approche. Thèse de l'Ecole Nationale des Ponts et Chaussées, 18 décembre 1987, 443 p.
- [41] Robert J.L., Fogue M., Bahuaud J., Fatigue life prediction under periodical or random multiaxial stress states. Automation in Fatigue and Fracture : Testing and Analysis. ASTM STP 1231, C. Amzallag Ed., Philadelphia : American Society for Testing and Materials, 1994, pp. 369-387.
- [42] Pisarenko G.S., Lebedv A.A., in Russian (Deformation and strength of materials under multiaxial stress state). Kiev: Naukova Dumka, 1976, 415 p.
- [43] Altenbach H., Zolochovski A., A unified model of low cycle fatigue damage. Fourth International Conference on Biaxial / Multiaxial Fatigue, Paris, May 31-June 3, 1994, Vol. 2, pp. 117-128.

- [44] Kakuno H., Kawada Y., A new criterion of fatigue strength of a round bar subjected to combined static and repeated bending and torsion. *Fatigue of Engineering Materials and Structures*, 1979, Vol. 2, pp. 229-236.
- [45] Hashin Z., Fatigue failure criteria for combined cyclic stress. *Int. J. Fracture*, 1981, Vol. 17, N° 2, pp. 101-109.
- [46] Yuan-Sheng Cheng, Physical interpretation of Hashin's criterion of fatigue failure under multiaxial stress. *Engng. Fracture Mechanics*, 1986, Vol. 24, N° 2, pp. 165-167.
- [47] Fogue M., Critère de fatigue à longue durée de vie pour des états multiaxiaux de contraintes sinusoïdales en phase et hors phase. Thèse de l'Institut National des Sciences Appliquées (INSA) de Lyon, N°ordre 87 ISAL 0030, Juillet 1987, 189 p.
- [48] Fogue M., Bahuaud J., Fatigue multiaxiale à durée de vie illimitée. 7^{ème} Congrès Français de Mécanique, Bordeaux, 1985, pp. 30-31.
- [49] Froustey C., Lasserre S., Dubar L., Essais de fatigue multiaxiaux et par blocs, validation d'un critère pour les matériaux métalliques. MAT-TEC 92, Grenoble, 1992, pp. 79-85.
- [50] Papadopoulos I.V., Fatigue limit of metals under multiaxial stress conditions - The microscopic approach. Technical Note N°I.93-101, (ISPRA) : Commission of the European Communities, Joint Research Centre, 1993, ISEI/IE 2495/93, 46 p.
- [51] Papadopoulos I.V., Exploring the high cycle fatigue behaviour of metals from the mesoscopic scale. *Journal of the Mechanical Behaviour of Materials*, 1996, Vol. 6, N° 2, pp. 93-118.
- [52] Papadopoulos I.V., Davoli P., Gorla C., Filippini M. and Bernasconi A., A comparative study of multiaxial high-cycle fatigue criteria for metals. *Int. J. Fatigue*, 1996, Vol. 19, pp. 219-235.
- [53] Palin-Luc T., Fatigue multiaxiale d'une fonte GS sous sollicitations combinées d'amplitude variable. Thèse de l'ENSAM, Talence, Novembre 1996, 261 p.
- [54] Palin-Luc T., Lasserre S., High cycle multiaxial fatigue energetic criterion taking into account the volumic distribution of stresses. *Proceeding of 5th International Conference on Biaxial/Multiaxial Fatigue & Fracture*, Cracow, 1997, pp. 63-79.
- [55] Palin-Luc T., Lasserre S., An energy based criterion for high cycle multiaxial fatigue. *European Journal of Mechanics, A/Solids*, 1998, Vol. 17, N° 2, pp. 237-251.
- [56] Mielke S., Festigkeitsverhalten metallischer werkstoffe unter zweiachsiger schwingender beanspruchung mit verschiedenen spannungszeitverläufen. Diss. TH Aachen, 1980, 89 p.
- [57] Heidenreich R., Richter I., Zenner H., Schubspannungsintensitätshypothese - Weitere experimentelle und theoretische untersuchungen. 1984, *Konstruktion* 36, pp. 99-104.
- [58] Froustey C., Lasserre S., Fatigue des aciers sous sollicitations combinées. Application à l'acier 30NCD16. Talence : ENSAM, Octobre 1988, Rapport DRET-LAMEF-ENSAM, contrat 87/115.

- [59] Dubar L., Fatigue multiaxiale des aciers. Passage de l'endurance à l'endurance limitée. Prise en compte des accidents géométriques. Thèse de l'ENSAM, Talence, Juin 1992, 165 p.
- [60] Issler L., Festigkeitsverhalten metallischer Werkstoffe bei mehrachsiger phasenverschobener beanspruchung. Diss. Uni Stuttgart, 1973.
- [61] Heidenreich R., Schubspannungsintensitätshypothese – Dauerschwingfestigkeit bei mehrachsiger beanspruchung. Forschungshefte FKM, Heft 105, 1983.
- [62] Lempp W., Festigkeitsverhalten von stählen bei mehrachsiger dauerschwingbeanspruchung durch normalspannungen mit überlagerten phasengleichen und phasenverschobenen schubspannungen. Diss. TU Stuttgart, 1977.
- [63] El-Magd E., Mielke S., Dauerfestigkeit bei überlagerter zweiachsiger statischer beanspruchung. 1977, Konstruktion 29, Heft 7, pp. 253-257.
- [64] Baier F.J., Zeit- und dauerfestigkeit bei überlagerter statischer und schwingender zugdruck- und torsionsbeanspruchung. Diss. Uni Stuttgart, 1970.
- [65] Heidenreich R., Zenner H., Festigkeitshypothese - Berechnung der dauerfestigkeit für beliebige beanspruchungskombinationen. Forschungshefte FKM, 1976, Heft 55, und Schubspannungsintensitätshypothese - Erweiterung und experimentelle abstützung einer neuen festigkeitshypothese für schwingende beanspruchung. Forschungshefte FKM, 1979, Heft 77.
- [66] Nolte F., Dauerfestigkeitsuntersuchungen an stahlwellen bei umlaufender biege- und überlagerter statischer verdrehbeanspruchung. Diss. TU Berlin, 1973.
- [67] Paysan B., Untersuchungen des einflusses einiger kerbformen auf die tragfähigkeit von wellen bei umlaufender biegun und überlagerter statischer torsion. Diss. TU Berlin, 1970.
- [68] Massonnet C., Le dimensionnement des pièces de machines. Contribution expérimentale à l'étude de l'effet de l'échelle et des entailles. Revue Universelle des Mines, Juin 1955, pp. 203-222.
- [69] Cazaud R., Pomey G., Rabbe P., Janssen C., La fatigue des métaux. Paris : Dunod, 1969, 622 p.
- [70] Dowling, N.E., Mechanical behavior of materials: engineering methods for deformation, fracture, and fatigue. Englewood Cliffs (New Jersey) : Prentice Hall, 1993, 773 p.
- [71] Pogoretskii R., Karpenko G.V., in Russian (On the effect of specimen length on the cyclic strength of steel). Zavodskaya Laboratoria, 1965, Vol. 31, N° 12, pp. 1497-1501.
- [72] Papadopoulos I.V., Panoskaltsis V.P., Gradient-dependent multiaxial high-cycle fatigue criterion. Multiaxial Fatigue and Design, ESIS 21 (Edited by A. Pineau, G. Cailletaud and T.C. Lindley), London : Mechanical Engineering Publications, 1996, pp. 349-364.
- [73] Bathias C., Baïlon J.P., La fatigue des matériaux et des structures, 2^{ème} édition. Paris : Editions Hermes, 1997, 684 p.

- [74] Brand A., Sutterlin R., Calcul des pièces à la fatigue, Méthode du gradient. Senlis : Editions du CETIM, 1980, 157 p.
- [75] Brand A., Nouvelle méthode de calcul en fatigue faisant intervenir le gradient de contraintes. Mécanique Matériaux Electricité, 1981, N° 375-376-377, pp. 136-143.
- [76] Moore H. F., Morkovin D., Second progress report on the effect of the specimen on fatigue strength of three types of steels. Proceedings, American Society Testing Materials, 1943, Vol. 43, pp. 109-120.
- [77] Macha E., Generalized fatigue criterion of maximum shear and normal strains on the fracture plane for materials under multiaxial random loadings. Mat.-wiss. u. Werkstofftech., 1991, Vol. 22, pp. 203-210.
- [78] Bedkowski W., Macha E., Fatigue fracture plane under multiaxial random loadings – Prediction by variance of equivalent stress based on the maximum shear and normal stresses. Mat.-wiss. u. Werkstofftech., 1992, Vol. 23, pp. 82-94.
- [79] Achtelik H., Bedkowski W., Grzelak J., Macha E., Fatigue life of 10HNAP steel under synchronous random bending and torsion. Fourth International Conference on Biaxial/Multiaxial Fatigue, St Germain-en-Laye, 1994, Vol. 1, pp. 421-434.
- [80] Bedkowski W., Determination of the critical plane and effort criterion in fatigue life evaluation for materials under multiaxial random loading. Experimental verification based on fatigue tests of cruciform specimen. Fourth International Conference on Biaxial/Multiaxial Fatigue, St Germain-en-Laye, 1994, Vol. 1, pp. 435-447.
- [81] Bannantine J.A., A variable amplitude multiaxial fatigue life prediction method. Ph.D. dissertation, Mechanical Engineering Department, The University of Illinois, Champaign, IL, 1989, 269 p.
- [82] Bannantine J.A., Socie D.F., Multiaxial fatigue life estimations techniques, ASTM Symposium on advances in fatigue lifetime predictive techniques, San Francisco, April 1990, 47 p.
- [83] Bannantine J.A., Socie D.F., A variable amplitude multiaxial fatigue life prediction method. K. Kussmaul, D. McDiarmid, D.F. Socie Editors, Fatigue under Biaxial and Multiaxial Loading, ESIS 10, London : Mechanical Engineering Publications, 1991, pp. 35-51.
- [84] Wang C.H, Brown M.W, Multiaxial random load fatigue : life prediction techniques and experiments, Multiaxial Fatigue and Design, ESIS 21 (Editors : A. Pineau, G. Cailletaud, and T.C. Lindley), London : Mechanical Engineering Publications, 1996, pp. 513-527.
- [85] Wang C.H, Brown M.W, Life prediction techniques for variable amplitude multiaxial fatigue – Part 1 : Theories. Journal of Engineering Materials and Technology, 1996, Vol. 118, pp. 367-370.
- [86] Wang C.H, Brown M.W, Life prediction techniques for variable amplitude multiaxial fatigue – Part 2 : Comparison with experimental results. Journal of Engineering Materials and Technology, 1996, Vol. 118, pp. 371-374.
- [87] Conle F.A., Chu C.C., Fatigue analysis and the local stress-strain approach in complex vehicular structures. Int. J. of Fatigue, 1997, Vol. 19, Supp. N° 1, pp. S317-S323.

- [88] Chu C.C., Multiaxial fatigue life prediction method in the ground vehicle industry. *International Journal of Fatigue*, 1997, Vol. 19, Supp. N° 1, pp. S325-S330.
- [89] Morel F., *Fatigue multiaxiale sous chargement d'amplitude variable*, Thèse de Doctorat, Université de Poitiers, Novembre 1996, 288 p.
- [90] Morel F., Petit J., Ranganathan N., Prediction de la durée de vie en fatigue multiaxiale à travers une approche mésoscopique, 13^{ème} Congrès Français de Mécanique, Poitiers, 1997, pp. 371-374.
- [91] Morel F., A fatigue life prediction method based on a mesoscopic approach in constant amplitude multiaxial loading. *Fatigue and Fracture of Engineering Materials and Structures*, 1998, Vol. 21, pp. 241-256.
- [92] Lemaitre J., *A course on damage mechanics*. 2nd edition. Berlin : Springer-Verlag, 1996, 223 p.
- [93] Sauzay M., Effet de surface libre en plasticité confinée : Application à la fatigue à grand nombre de cycles. LMT-Cachan, mars 1999, Rapport interne n°224, 33 p.
- [94] Preumont A., *Vibrations aléatoires et analyse spectrale*. Lausanne : Presses polytechniques et universitaires romandes, 1990, 343 p.
- [95] Pitoiset X., Kernilis A., Some tools for a multiaxial random fatigue analysis with finite elements. *European Journal of Mechanical and Environmental Engineering*, 1999, Vol. 44, N° 1, pp. 11-15.
- [96] Pitoiset X., Kernilis A., Preumont A., Piéfort V., Estimation du dommage en fatigue multiaxiale de structures métalliques soumises à des vibrations aléatoires. *Revue Française de Mécanique*, 1998, N° 3, pp. 201-208.
- [97] Pitoiset X., Preumont A., Kernilis A., Tools for a multiaxial fatigue analysis of structures submitted to random vibrations, *Proceedings of European Conference on Spacecraft Structures, Materials and Mechanical Testing*, Braunschweig (Germany), 4-6 Nov. 1998, pp.289-294.
- [98] Robert J.L., Bahuaud J., Proposition for a variable amplitude multiaxial fatigue life prediction method. *EUROMECH 297*, Lozari (Corse), 1-4 Sept. 1992, 10p.
- [99] Robert J.L., Bahuaud J., Multiaxial fatigue under random loading. *International Fatigue Series - Fatigue 1993*, Montréal (Québec-Canada), 3-7 Mai 1993, pp. 1515-1520.
- [100] Kenmeugne B., *Contribution à la modélisation du comportement en fatigue sous sollicitations multiaxiales d'amplitude variable*. Thèse de l'Institut National des Sciences Appliquées (INSA) de Lyon, N°ordre 96 ISAL 0064, Juillet 1996, 286 p.
- [101] *Fatigue sous sollicitations d'amplitude variable. Méthode Rainflow de comptage des cycles*. Principe et utilisation. Recommandation AFNOR A03-406, Novembre 1993, 32 p.
- [102] Miner M.A., Cumulative damage in fatigue. *Journal of Applied Mechanics*, Transactions of ASME, 1945, Vol. 12, N° 3, pp. 159-164.

- [103] Lemaitre J., Chaboche J.L., *Mécanique des Matériaux Solides*, Paris : Dunod, 1996, 544 p.
- [104] Lemaitre J., Chaboche J.L., Aspect phénoménologique de la rupture par endommagement. *Journal de Mécanique Appliquée*, 1978, Vol. 2, N° 3, pp. 317-363.
- [105] Weber B., Vialaton G., Carmet A., Robert J.L., Calculation time reduction of a non linear damage rule used in variable amplitude fatigue. *Troisième Congrès de Mécanique*, Faculté des Sciences de Tétouan, Maroc, 22-25 Avril 1997, Vol. 1-B, pp. 833-838.
- [106] Schutz D., Klatschke H., Steinhilber H., Heuler P., Schutz W., Standardized load sequences for car wheel suspension components – Car Loading Standard CARLOS. LBF, Darmstadt: 1990, Report N° FB-191, 70 p.
- [107] Weber B., Clement J.C., Kenmeugne B., Robert J.L., On a global stress-based approach for fatigue assessment under multiaxial random loading. *Engineering Against Fatigue*, Sheffield (England), A.A. Balkema Publishers, 1999, pp. 407-414.
- [108] Bedkowski W., Kenmeugne B., Macha E., Robert J.L., On the prediction of the orientation of the fatigue crack initiation plane. *5th International Conference on Biaxial / Multiaxial Fatigue and Fracture*. Cracow, Poland, 8-12 September 1997, pp. 523-540.
- [109] Hibbitt, Karlsson & Sorensen, Inc., ABAQUS Standard Version 5.7, (1997).
- [110] Builder Xcessory TM. Version 4.0, Xanth informatique.
- [111] Neuber H., Theory of stress concentration for shear strained prismatical bodies with arbitrary non linear stress-strain law. *Journal of Applied Mechanics*, Transactions of ASME, December 1961, pp. 544-550.
- [112] Robillard M., Porayko M., Influence d'une pré-déformation sur la résistance à la fatigue en endurance de la nuance HR55 : expériences et modélisation. *IRSID Maizières-les-Metz*, Octobre 1998, Rapport interne MPM98N1782, 31 p.
- [113] Chu C.-C., Conle F.A., Multiaxial Neuber-type of elastic to elastic-plastic stress-strain correction, *Proceedings of the 4th International Conference on Biaxial/Multiaxial Fatigue*, St Germain-en-Laye, France, 1994, pp.489-498.