REFERENCES

Abbo, A.J., and S.W. Sloan, "A Smooth Hyperbolic Approximation to the Mohr-Coulomb Yield Criterioin," *Computers and Structures*, Vol. 54, No. 1, (1995).

Alameda, A., Dominguez, A., Martin-Santos, E., Miura, T.M., "Enhanced Material Model for Composite Crash Performance at Ply Level - *MAT_262 Evolution -", *Proceedings 2024 JSAE Annual Congress (Spring)*, No. 30-34, May (2024).

Allen, D.J., Rule, W.K., Jones, S.E., "Optimizing Material Strength Constants Numerically Extracted from Taylor Impact Data", *Experimental Mechanics*, Vol. 37, No. 3, September (1997).

Allen, E.J., "Approximate ballistics formulas for spherical pellets in free flight", *Defence Technology*, Vol. 14, No. 1, pp. 1-11, (2018).

Allman, D.J., "A Compatible Triangular Element Including Vertex Rotations for Plane Elasticity Analysis," *Computers and Structures*, 19, 1-8, (1984).

Anagonye, A.U. and J.T. Wang, "A Semi-Empirical Method for Estimating the Effective Leak and Vent Areas of an Airbag", AMD-Vol. 237/BED-Vol. 45, pp. 195-217, (1999).

Anand, L. and M.E. Gurtin, "A theory of amorphous solids undergoing large deformations, with application to polymeric glasses," *International Journal of Solids and Structures*, 40, pp. 1465-1487 (2003)

Andrade, F.X.C., Feucht, M., Haufe, A., "On the Prediction of Material Failure in LS-DY-NA: A Comparison between GISSMO and DIEM", 13th International LS-DYNA Users Conference, Dearborn, MI, June 8-10, (2014).

Andrade, F.X.C., Feucht, M., Haufe, A., "An incremental stress state dependent damage model for ductile failure prediction", *International Journal of Fracture*, 200, 127-150 (2016).

Aretz, H. "Applications of a New Plane Stress Yield Function to Orthotropic Steel and Aluminum Sheet Metals," *Modeling and Simulation in Materials Science and Engineering*, 12, 491-509 (2004).

Aretz, H., Barlat, F. "General orthotropic yield function based on linear stress deviator transformations," in: S. Gosh, G.C. Castro, J.K. Lee (eds.) *Materials processing and design: Modelling, simulation and applications*, Proceedings of the NUMIFORM 2004 Conference, Columbus, Ohio, 147-151 (2004).

REFERENCES

Aretz, H., Aegerter, J. and Engler, O., "Analysis of earing in deep drawn cups", in: F. Barlat, Y.H. Moon, M.G. Lee (eds.), Proceedings of the NUMIFORM 2010 Conference, 1252 (1), 417-424 (2010).

Argon, AS., "A theory for the low-temperature plastic deformation of glassy polymers", *Philosophical Magazine*, 28, 839-865 (1973).

Armstrong, P.J., and Frederick, C.O., "A Mathematical Representation of the Multiaxial Bauschinger Effect," CEGB Report, RD/B/N731, Berkeley Nuclear Laboratories (1966).

Arruda, E. and M. Boyce, "A Three-Dimensional Constitutive Model for the Large Stretch Behavior of Rubber Elastic Materials," *Journal of the Mechanics and Physics of Solids*, Vol. 41, No. 2, pp. 389-412, (1993).

Auricchio, F., R.L. Taylor and J. Lubliner, "Shape-memory alloys: macromodeling and numerical simulations of the superelastic behavior", *Computer Methods in Applied Mechanics and Engineering*, vol. 146, pp. 281-312, (1997).

Auricchio, F. and R.L. Taylor, "Shape-memory alloys: modeling and numerical simulations of the finite-strain superelastic behavior", *Computer Methods in Applied Mechanics and Engineering*, vol. 143, pp. 175-194, (1997).

Bahler AS: The series elastic element of mammalian skeletal muscle. *Am J Physiol* 213:1560-1564, (1967).

Baker, E.L., "An Explosives Products Thermodynamic Equation of State Appropriate for Material Acceleration and Overdriven Detonation: Theoretical Background and Fourmulation," Technical Report ARAED-TR-911013, U.S. Army Armament Research, Development and Engineering Center, Picatinney Arsenal, New Jersey, 1991).

Baker, E.L. and J. Orosz, J., "Advanced Warheads Concepts: An Advanced Equation of State for Overdriven Detonation," Technical Report ARAED-TR-911007, U.S. Army Armament Research, Development and Engineering Center, Picatinney Arsenal, New Jersey, (1991).

Baker, E.L. and L.I. Stiel, "Improved Quantitative Explosive Performance Prediction Using Jaguar," 1997 Insensitive Munitions and Energetic Materials Technology Symposium, Tampa, FL, (1997).

Bammann, D.J. and E.C. Aifantis, "A Model for Finite-Deformation Plasticity," *Acta Mechanica*, 70, 1-13 (1987).

Bammann, D.J. and G. Johnson, "On the Kinematics of Finite-Deformation Plasticity," *Acta Mechanica, 69,* 97-117 (1987).

Bammann, D.J., "Modeling the Temperature and Strain Rate Dependent Large Deformation of Metals," Proceedings of the 11th US National Congress of Applied Mechanics, Tuscon, AZ, (1989).

Bammann, D.J., M.L. Chiesa, A. McDonald, W.A. Kawahara, J.J. Dike, and V.D. Revelli, "Predictions of Ductile Failure in Metal Structures," in AMD-Vol. 107, Failure Criteria and Analysis in Dynamic Response, Edited by. H.E. Lindberg, 7-12, (1990).

Bandak, F.A., private communications, U.S. Dept. of Trans., Division of Biomechanics Research, 400 7th St., S.W. Washington, D.C. 20590 (1991).

Banks, J., Henshaw, W., Schwendeman, D., and A. Kapila, "A study of detonation propagation and diffraction with compliant confinement," Combust. Theory Model. 12 (4) (2008) 769–808.

Bansal, S., Mobasher, B., Rajan, S., and Vintilescu, I., "Development of Fabric Constitutive Behavior for Use in Modeling Engine Fan Blade-Out Events." J. Aerosp. Eng. 22, SPECIAL ISSUE: Ballistic Impact and Crashworthiness Response of Aerospace Structures, 249–259, (2009).

Barlat, F. and J. Lian, "Plastic Behavior and Stretchability of Sheet Metals. Part I: A Yield Function for Orthotropic Sheets Under Plane Stress Conditions," *Int. J. of Plasticity*, Vol. 5, pp. 51-66 (1989).

Barlat, F., D.J. Lege, and J.C. Brem, "A Six-Component Yield Function for Anisotropic Materials," *Int. J. of Plasticity*, 7, 693-712, (1991).

Barlat, F., Y. Maeda, K. Chung, M. Yanagawa, J.C. Brem, Y. Hayashida, D.J. Lege, K. Matsui, S.J. Murtha, S. Hattori, R.C. Becker, and S. Makosey, "Yield Function Development for Aluminum Alloy Sheets", J. Mech. Phys. Solids, Vol. 45, No. 11-12, 1727-1763, (1997).

Barlat, F., Brem, J.C., Yoon, J.W., Chung, K., Dick, R.E., Lege, D.J., Pourboghrat, F., Choi, S.H., Chu, E., "Plane Stress Yield Function for Aluminum Alloy Sheets – Part 1: Theory, Int. J. Plast. 19, 1-23, (2003).

Barlat, F., Aretz, H., Yoon, J.W., Karabin, M.E., Brem, J.C., Dick, R.E. "Linear transformation-based anisotropic yield functions", *International Journal of Plasticity* 21, 1009-1039 (2005).

Basu, U., "Explicit finite element perfectly matched layer for transient three-dimensional elastic waves," *International Journal for Numerical Methods in Engineering*, vol. 77, pp. 151–176, (2009).

REFERENCES

Basu, U. and Chopra, A.K., "Perfectly matched layers for time-harmonic elastodynamics of unbounded domains theory and finite-element implementation," *Computer Methods in Applied Mechanics and Engineering*, vol. 192, pp. 1337–1375, (2003).

Basu, U. and Chopra, A.K., "Perfectly matched layers for transient elastodynamics of unbounded domains," *International Journal for Numerical Methods in Engineering*, vol. 59, pp. 1039–1074, (2004). Erratum: Ibid. vol. 61, pp. 156–157, (2004).

Bathe, K.-J. Conserving energy and momentum in nonlinear dynamics: A simple implicit time integration scheme, *Computers and Structures*, 85, 437-445 (2007).

Bathe, K.-J. and Dvorkin, E.N. A four node plate bending element based on Mindlin-Reissner plate theory and a mixed interpolation, *Int. J. Num. Meth. Eng.*, 21, 367-383 (1985).

Bathe, K-J. and Noh, G. Insight into an implicit time integration scheme for structural dynamics, *Computers and Structures*, 98/99, 1-6 (2012).

Batoz, J.L. and Ben Tahar, M. Evaluation of a new quadrilateral thin plate bending element, Int. *J. Num. Meth. Eng.*, 18, 1644-1677 (1982).

Batoz, J.-L. and M. Ben Tahar, Evaluation of a new quadrilateral thin plate bending element, *International Journal for Numerical Methods in Engineering*, 18, (1982), 1655-1677.

Bayer, J.D., Blake, R. C., Plank, G., and Trayanova, N. A., "A novel rule-based algorithm for assigning myocardial fiber orientation to computational heart models," *Annals of biomedical engineering*, 40(10), 2243-2254 (2012).

Bazeley, G.P., W.K. Cheung, R.M. Irons, and O.C. Zienkiewicz, "Triangular Elements in Plate Bending-Confirming and Nonconforming Solutions in Matrix Methods and Structural Mechanics," Proc. Conf. on Matrix Methods in Structural Analysis, Rept. AFFDL-R-66-80, Wright Patterson AFB, 547-576 (1965).

Belytschko, T. and Bindeman, L. P. "Assumed Strain Stabilization of the Eight Node Hexahedral Element," Comp. Meth. Appl. Mech. Eng. **105**, 225-260 (1993).

Belytschko, T.B. and A.H. Marchertas, "Nonlinear Finite Element Method for Plates and its Application to the Dynamic Response of Reactor Fuel Subassemblies," *Trans, ASME J. Pressure Vessel Tech.*, 251-257 (1974).

Belytschko, T.B. and C.S. Tsay, "Explicit Algorithms for Nonlinear Dynamics of Shells," AMD-Vol.48, ASME, 209-231 (1981).

Belytschko, T.B. and C.S. Tsay, "Explicit Algorithms for Nonlinear Dynamics of Shells," *Comp. Meth. Appl. Mech. Eng.*, 43, 251-276, (1984).

Belytschko, T.B. and C.S. Tsay, "A Stabilization Procedure for the Quadrilateral Plate Element with One-Point Quadrature," *Int. J. Num. Method. Eng.*, 19, 405-419 (1983).

Belytschko, T.B., H. Stolarski, and N. Carpenter, "A C° Triangular Plate Element with One-Point Quadrature," *Int. J. Num. Meth. Eng.*, 20, 787-802 (1984).

Belytschko, T.B., I. Yeh, "The Splitting Pinball Method for Contact-Impact Problems," *Comp. Meth. Appl. Mech. Eng.*, 105, 375-393, (1993).

Belytschko, T.B., L. Schwer, and M.J. Klein, "Large Displacement Transient Analysis of Space Frames," *Int. J. Num. Eng.*, 11, 65-84 (1977).

Benson, D.J. and J.O. Hallquist, "A Simple Rigid Body Algorithm for Structural Dynamics Programs," *Int. J. Numer. Meth. Eng.*, 22, (1986).

Benson, D.J. and J.O. Hallquist, "A Single Surface Contact Algorithm for the Postbuckling Analysis of Shell Structures," Comp. Meths. Appl. Mech. Eng., 78, 141-163 (1990).

Benzeggagh, M.L. and Kenane, M., "Measurement of Mixed-mode Delamination Fracture Toughness of Unidirectional Glass/Epoxy Composites with Mixed-mode Bending Apparatus," Composites Science and Technology, 56, 439-449 (1996).

Berstad, T., "Material Modeling of Aluminium for Crashworthiness Analysis", Dr.Ing. Dissertation, Department of Structural Engineering, Norwegian University of Science and Technology, Trondheim, Norway, (1996).

Berstad, T., Hopperstad, O.S., Lademo, O.-G. and Malo, K.A., "Computational Model of Ductile Damage and Fracture in Shell Analysis", Second European LS-DYNA Conference, Gothenburg, Sweden, (1999).

Berstad, T., Lademo, O.-G., Pedersen, K.O. and Hopperstad, O.S., "*Formability modeling with LS-DYNA"*, 8th International LS-DYNA User's Conference, Detroit, May 3-5, 2004.

Berstad, T., Langseth, M. and Hopperstad, O.S., "Elasto-viscoplastic Constitutive Models in the Explicit Finite Element Code LS-DYNA3D," Second International LS-DYNA3D conference, San Francisco, (1994).

Bergström, J.S. and M.C. Boyce, "Constitutive modeling of the large strain time-dependent behavior of elastomers" *J. Mech. Phys. Solids*, 46, 931-954 (1998).

Bielak, J. and Christiano, P., "On the effective seismic input for non-linear soil-structure interaction systems," *Earthquake Engineering and Structural Dynamics*, vol. 12, pp. 107–119, (1984).

REFERENCES

Bier, M., Sommer, S., "Simplified modeling of self-piercing riveted joints for crash simulation with a modified version of *CONSTRAINED_INTERPOLATION_-SPOTWELD". 9th European LS-DYNA Conference, Manchester, (2013).

Bilkhu, S.S., M. Founas, and G.S. Nasholtz, "Material Modeling of Structural Foams in Finite Element Analysis Using Compressive Uniaxial and Triaxial Data," SAE (Nat. Conf.) Detroit 1993, pp. 4-34.

Blatz, P.J., and Ko, W.L., "Application of Finite Element Theory to the Deformation of Rubbery Materials," *Trans. Soc. of Rheology*, 6, 223-251 (1962).

Borrvall T., Bhalsod D., Hallquist J.O., and Wainscott B., "Current Status of Subcycling and Multiscale Simulations in LS-DYNA". 13th International LS-DYNA User's Conference, Dearborn MI, (2014).

Boyce, M.C., Parks, D.M., and Argon, A.S., "Large inelastic deformation of glassy polymers. Part I: Rate dependent constitutive model". *Mechanics of Materials*, 7, 15-33 (1988).

Boyce, M.C., Socrate, C. and Llana, P.G., "Constitutive model for the finite deformation stress-strain behavior of poly(ethylene terephthalate) above the glass transition". *Polymer*, 41, 2183-2201 (2000).

Brandt, J., On Constitutive Modelling of the Compaction and Sintering of Cemented Carbides, Linköping Studies in Science and Technology, Dissertations 515, 1998.

Brekelmans, W.A.M., Scheurs,P.J.G., and de Vree, J.H.P., 1991, "Continuum damage mechanics for softening of brittle materials", *Acta Mechanica*, vol 93, pp 133-143

Broadhouse, B.J., "The Winfrith Concrete Model in LS-DYNA3D," Report: SPD/D(95)363, Structural Performance Department, AEA Technology, Winfrith Technology Centre, U.K. (1995).

Broadhouse, B.J. and Neilson, A.J., "Modelling Reinforced Concrete Structures in DY-NA3D", Safety and Engineering Division, United Kingdom Atomic Energy Authority, Winfrith, AEEW-M 2465, 1987.

Brode, H.L., "Height of Burst Effects at High Overpressure," RAND, RM-6301-DASA, DASA 2506, (1970).

Brown, B.E. and J.O. Hallquist, "TAURUS: An Interactive Post-Processor for the Analysis Codes NIKE3D, DYNA3D, TACO3D, and GEMINI," University of California, Lawrence Livermore National Laboratory, Rept. UCID-19392 (1982) Rev. 1 (1984).

Bruneau, M., Uang, C.M., Whittaker, A., Ductile Design of Steel Structures, McGraw Hill, (1998).

Burton, D.E. et al. "Physics and Numerics of the TENSOR Code," Lawrence Livermore National Laboratory, Internal Document UCID-19428, (July 1982).

Carney, K.S., S.A. Howard, B.A. Miller, and D.J. Benson. "New Representation of Bearings in LS-DYNA," 13th International LS-DYNA Users Conference, Dearborn, MI, June 8-10, 2014.

CEB Code 1993, Comite euro-international du beton, *CEB-FIP Model Code 1990*, Thomas Telford, London, (1993).

Chang, F.K. and K.Y. Chang, "A Progressive Damage Model for Laminated Composites Containing Stress Concentration," *J. of Composite Materials*, 21, 834-855 (1987a).

Chang, F.K. and K.Y. Chang, "Post-Failure Analysis of Bolted Composite Joints in Tension or Shear-Out Mode Failure," *J. of Composite Materials*, 21 809-823 (1987b).

Chang, F.S., "Constitutive Equation Development of Foam Materials," Ph.D. Dissertation, submitted to the Graduate School, Wayne State University, Detroit, Michigan (1995).

Chao, Y. J., Wang, K, Miller, K. W. and Zhu, X. K. "Dynamic Separation of Resistance Spot Welded joints: Part I – Experiments", *Exp Mech*, Vol. 50, Issue 7, pp 889-900 (2010).

Chen, W.F., and Baladi, G.Y., Soil Plasticity: Theory and Implementation, Elesvier, New York, (1985).

Cheng, H., Obergefell, L.A., and Rizer, A., March 1994, "Generator of Body (GEBOD) Manual," Report No. AL/CF-TR-1994-0051.

Chowdhury, S.R. and Narasimhan R., "A Cohesive Finite Element Formulation for Modeling Fracture and Delamination in Solids," *Sadhana*, 25(6), 561-587, (2000).

Christensen, R.M. "A Nonlinear Theory of Viscoelasticity for Application to Elastomers," *Journal of Applied Mechanics,* Volume 47, American Society of Mechanical Engineers, pages 762-768, December 1980.

Chu, C.C. and A. Needleman, "Void Nucleation Effects in Biaxially Stretched Sheets", ASME Journal of Engineering Materials and Technology, 102, 249-256 (1980).

Chung, K. and K. Shah, "Finite Element Simulation of Sheet Metal Forming for Planar Anisotropic Metals," *Int. J. of Plasticity*, 8, 453-476, (1992).

Cochran, S.G. and J. Chan, "Shock Initiation and Detonation Models in One and Two Dimensions," University of California, Lawrence Livermore National Laboratory, Rept. UCID-18024 (1979).

REFERENCES

M. G. Cockcroft and D. J. Latham, "Ductility and the Workability of Metals," *Journal Institute of Metals*, Vol. 96, 1968, pp. 33-39.

Cook, R. D., Concepts and Applications of Finite Element Analysis, John Wiley and Sons, Inc. (1974).

Costas M., Morin D., Hopperstad O.S., Børvik T., and Langseth M., "A through-thickness damage regularisation scheme for shell elements subjected to severe bending and membrane deformations", submitted to *Journal of the Mechanics and Physics of Solids*, (2018)

Couch, R., E. Albright, and N. Alexander, The Joy Computer Code, Lawrence Livermore National Laboratory, Internal Document Rept. UCID-19688, (January, 1983).

Couque, H., "The use of the direct impact Hopkinson pressure bar technique to describe thermally activated and viscous regimes of metallic materials", *Phil. Trans. R. Soc. A*, 372: 20130218, (2014).

Cowper, G.R. and P.S. Symonds, Strain Hardening and Strain Rate Effects in the Impact Loading of Cantilever Beams, Brown University, Applied Mathematics Report, 1958.

CRAY-1 Computer System CFT Reference Manual, Cray Research Incorporated, Bloomington, NM., Publication No. 2240009 (1978).

Dafalias,Y. F. and Manzari, M.T. "Simple plasticity sand model accounting for fabric change effects." *Journal of Engineering Mechanics*, 130(6), 622–634 (2004).

Dafalias, Y. F., Papadimitriou, A. G., and Li, X. S. "Sand plasticity model accounting for inherent fabric anisotropy." *Journal of Engineering Mechanics*,130(11), 1319–1333 (2004).

Dal, H. and M. Kaliske, "Bergström-Boyce model for nonlinear finite rubber viscoelasticity: theoretical aspects and algorithmic treatment for the FE method" *Computational Mechanics*, 44(6), 809-823, (2009).

DeRuntz, J.A. Jr., "Reference Material for USA, The Underwater Shock Analysis Code, USA-STAGS, and USA-STAGS-CFA," Report LMSC-P032568, Computational Mechanics Laboratory, Lockheed Palo Alto Research Laboratory, Palo Alto, CA. (1993).

Desai, C.S., and H.J. Siriwardane, Constitutive Laws for Engineering Materials with Emphasis On Geologic Materials, Prentice-Hall, Chapter 10, (1984).

Deshpande, V.S. and N.A. Fleck, "Isotropic Models for Metallic Foams," *Journal of the Mechanics and Physics of Solids*, 48, 1253-1283, (2000).

Dick, R.E., and W.H. Harris, "Full Automated Rezoning of Evolving Geometry Problems," Numerical Methods in Industrial Forming Processes, Chenot, Wood, and Zienkiewicz, Editors, Bulkema, Rotterdam, 243-248, (1992).

Dilger, W.H., R. Koch, and R. Kowalczyk, "Ductility of Plain and Confined Concrete Under Different Strain Rates," *ACI Journal,* January-February, (1984).

Dobratz, B.M., "LLNL Explosives Handbook, Properties of Chemical Explosives and Explosive Simulants," University of California, Lawrence Livermore National Laboratory, Rept. UCRL-52997 (1981).

Du Bois, P.A., "Numerical Simulation of Strandfoam" Daimler-Chrysler AG Abt. EP/CSV, Report (2001).

Dufailly, J., and Lemaitre, J., "Modeling very low cycle fatigue", *International Journal of damage mechanics*, 4, pp. 153-170 (1995).

Dunand, M., Maertens, A.P., Luo, M., Mohr, D., "Experiments and modeling of anisotropic aluminum extrusions under multi-axial loading – Part I: Plasticity," *Int. J. of Plasticity*, Vol. 36, pp. 34-49 (2012).

Effelsberg, J., Haufe, A., Feucht, M., Neukamm, F., DuBois, P., "On the Parameter Identification for the GISSMO Damage Model", 12th International LS-DYNA Users Conference, Dearborn, MI, (2012).

Ellison, K., Soga, K., & Simpson, B., "A strain space soil with evolving stiffness memory", Géotechnique, Vol. 62, No. 7, 627-641 (2012).

Erhart, T., Andrade, F., Du Bois, P., "Short Introductionof a New Generalized Damage Model", 11th European LS-DYNA Conference, Salzburg, Austria, May 2017.

Erhart, T., "A New Feature to Model Shell-Like Structures with Stacked Elements", 10th European LS-DYNA Conference, Würzburg, Germany, June 2015.

Erhart, T., Borrvall, T., "Drilling rotation constraint for shell elements in implicit and explicit analyses", 9th European LS-DYNA Conference, Manchester, UK, June 2013.

Erhart, T., "An Overview of User Defined Interfaces in LS-DYNA", LS-DYNA Forum, Bamberg, Germany, 2010.

Englemann, B. E., R.G. Whirley, and G.L. Goudreau, "A Simple Shell Element Formulation for Large-Scale Elastoplastic Analysis," CED-Vol. 3. Analytical and Computational Models of Shells, A.K. Noor, T. Belytschko, and J.C. Simo, Editors, 1989, pp. 399-416.

Faßnacht, W., "Simulation der Rißbildung in Aluminiumgußbauteilen," Dissertation, Technishe Universität Darmstadt, (1999).

REFERENCES

Fan, H.F, Zhu, X.H., Zhang, L., and Xiao, Y.Z., Improvement of Mesh Fusion in LS-DYNA, FEA Information Engineering Journal, Volume 6, Issue Q2, June 2017, ISSN 2167-1273.

Feng, W.W. and Hallquist, J.O., "On Constitutive Equations for Elastomers and Elastomeric Foams", The 4th European LS-DYNA Conference, D-II-15, Ulm, Germany, May 2003.

Feucht, M., "Ein gradientenabhängiges Gursonmodell zur Beshreibung duktiler Schädigung mit Entfestigung," Dissertation, Technishe Universität Darmstadt, (1998).

Fiolka, M. and Matzenmiller, A., "Delaminationsberechnung von Faserverbundstrukturen", *PAMM Proc. Appl. Math. Mech.* 5, S.393-394 (2005).

Flanagan, D.P. and T. Belytschko, "A Uniform Strain Hexahedron and Quadrilateral and Orthogonal Hourglass Control," *Int. J. Numer. Meths. Eng.*, 17, 679-706 (1981).

Fleischer, M., Borrvall, T. and Bletzinger, K-U., "Experience from using recently implemented enhancements for Material 36 in LS-DYNA 971 performing a virtual tensile test", 6th European LS-DYNA Users Conference, Gothenburg, 2007.

Forghani A., "A Non-Local Approach to Simulation of Damage in Composite Structures", *PhD Thesis, Department of Civil Engineering, The University of British Columbia,, Vancouver, Canada,* (2011).

Forghani A., Zobeiry N., Vaziri R., Poursartip A., and Ellyin F., "A Non-Local Approach to Simulation of Damage in Laminated Composites." *Proc., ASC/CANCOM Conference,* Montreal, Canada (2011b).

Forghani A., Zobeiry N., Poursartip A., and Vaziri R., "A Structural Modeling Framework for Prediction of Damage Development and Failure of Composite Laminates". Accepted for publication in *Composites Sci. Technol*.

Freed AD., Einstein DR. and Vesely I., "Invariant Formulation for Dispersed Transverse Isotropy in Aortic Heart Valves – An Efficient Means for Modeling Fiber Splay", *Biomechan Model Mechanobiol*, 4, 100-117 (2005)

Fung, Y.C., Biomechanics, Springer, New York, 1993.

Fung, Y.C., Foundations of Solid Mechanics, Prentice Hall, Inc., Englewood Cliffs, New Jersey, 1965.

Gerlach, S., Fiolka M. and Matzenmiller, A., Modelling and analysis of adhesively bonded joints with interface elements for crash analysis, 4. LS-DYNA Forum, 20-21, (2005) Bamberg, DYNAmore GmbH, Stuttgart.

Ginsberg, M. and J. Johnson, "Benchmarking the Performance of Physical Impact Simulation Software on Vector and Parallel Computers," Applications Track of Supercomputing, IEEE monograph, Computer Society Press, March, 1989.

Giroux, E.D. HEMP User's Manual, University of California, Lawrence Livermore National Laboratory, Rept. UCRL-51079 (1973).

Goldberg, R., and D. Stouffer, "High Strain Rate Dependent Modeling Polymer Matrix Composites," NASA/TM-1999-209433 (1999).

Goudreau, G.L. and J.O. Hallquist, "Recent Developments in Large Scale Finite Element Lagrangian Hydrocode Technology," *J. Comp. Meths. Appl. Mechs. Eng.*, 30 (1982).

Goldak, J., Chakravarti, A., and Bibby, M., "A New Finite Element Model for Welding Heat Sources," *Metallurgical Transactions B*, vol. 15B, pp. 299-305, June, 1984.

Govindjee, S., Kay, J.G., and Simo, J.C. [1994], Anisotropic Modeling and Numerical Simulation of Brittle Damage in Concrete, Report No. UCB/SEMM-94/18, Department of Civil Engineering, University of California, Berkeley, CA 94720.

Govindjee, S., Kay, J.G., and Simo, J.C. [1995], "Anisotropic Modeling and Numerical Simulation of Brittle Damage in Concrete," *Int. J. Numer. Meth. Engng*, **38**, 3611-3633.

Graefe, H., W. Krummheuer, and V. Siejak, "Computer Simulation of Static Deployment Tests for Airbags, Air Permeability of Uncoated Fabrics and Steady State Measurements of the Rate of Volume Flow Through Airbags," SAE Technical Paper Series, 901750, Passenger Car Meeting and Expositition, Dearborn, Michigan, September 17-20, 1990.

Gran, J.K. and P.E. Senseny, "Compression Bending of Scale-Model Reinforced-Concrete Walls," *ASCE Journal of Engineering Mechanics*, Volume 122, Number 7, pages 660-668, July (1996).

Grassl, P., U. Nyström, R. Rempling, and K. Gylltoft, "A Damage-Plasticity Model for the Dynamic Failure of Concrete", 8th International Conference on Structural Dynamics, Leuven, Belgium, March (2011).

Grassl, P., D. Xenos, U. Nyström, R. Rempling, and K. Gylltoft, "CDPM2: A damage-plasticity approach to modelling the failure of concrete", *International Journal of Solids and Structures*, Vol. 50, Issue 24, pp. 3805-3816, (2013).

Grassl, P. and M. Jirásek, "Damage-Plastic Model for Concrete Failure", *International Journal of Solids and Structures*, Vol. 43, Issues 22-23, pp. 7166-7196, November (2006).

REFERENCES

Gruben, G., Hopperstad O.S., and Børvik T., "Evaluation of uncoupled ductile fracture criteria for the dual-phase steel Docol 600DL". *International Journal of Mechanical Sciences*, Volume 62, pages 133–146, (2012)

Guccione, J., A. McCulloch, and L. Waldman, "Passive Material Properties of Intact Ventricular Myocardium Determined from a Cylindrical Model", *ASME Journal of Biomechanical Engineering*, Vol. 113, pages 42-55, (1991).

Guccione JM, Waldman LK, McCulloch AD., "Mechanics of Active Contraction in Cardiac Muscle: Part II – Cylindrical Models of the Systolic Left Ventricle", J. Bio Mech, 115, 82-90, (1993).

Gurson, A.L., Plastic Flow and Fracture Behavior of Ductile Materials Incorporating Void Nucleation, Growth, and Interaction, Ph.D. Thesis, Brown University, (1975).

Gurson, A.L., "Continuum Theory of Ductile Rupture by Void Nucleation and Growth: Part I - Yield Criteria and Flow Rules for Porous Ductile Media", *J. of Eng. Materials and Technology*, (1977).

Hallquist, J.O., Preliminary User's Manuals for DYNA3D and DYNAP (Nonlinear Dynamic Analysis of Solids in Three Dimension), University of California, Lawrence Livermore National Laboratory, Rept. UCID-17268 (1976) and Rev. 1 (1979).[**a**]

Hallquist, J.O., A Procedure for the Solution of Finite Deformation Contact-Impact Problems by the Finite Element Method, University of California, Lawrence Livermore National Laboratory, Rept. UCRL-52066 (1976).

Hallquist, J.O., "A Numerical Procedure for Three-Dimensional Impact Problems," *American Society of Civil Engineering*, Preprint 2956 (1977).

Hallquist, J.O., "A Numerical Treatment of Sliding Interfaces and Impact," in: K.C. Park and D.K. Gartling (eds.) *Computational Techniques for Interface Problems*, AMD Vol. 30, ASME, New York (1978).

Hallquist, J.O., NIKE2D: An Implicit, Finite-Element Code for Analyzing the Static and Dynamic Response of Two-Dimensional Solids, University of California, Lawrence Livermore National Laboratory, Rept. UCRL-52678 (1979).[**b**]

Hallquist, J.O., User's Manual for DYNA2D – An Explicit Two-Dimensional Hydrodynamic Finite Element Code with Interactive Rezoning, University of California, Lawrence Livermore National Laboratory, Rept. UCID-18756 (1980).

Hallquist, J.O., User's Manual for DYNA3D and DYNAP (Nonlinear Dynamic Analysis of Solids in Three Dimensions), University of California, Lawrence Livermore National Laboratory, Rept. UCID-19156 (1981).[**a**]

Hallquist, J. O., NIKE3D: An Implicit, Finite-Deformation, Finite-Element Code for Analyzing the Static and Dynamic Response of Three-Dimensional Solids, University of California, Lawrence Livermore National Laboratory, Rept. UCID-18822 (1981).**[b]**

Hallquist, J.O., DYNA3D User's Manual (Nonlinear Dynamic Analysis of Solids in Three Dimensions), University of California, Lawrence Livermore National Laboratory, Rept. UCID-19156 (1982; Rev. 1: 1984; Rev. 2: 1986).

Hallquist, J.O., Theoretical Manual for DYNA3D, University of California, Lawrence Livermore National Laboratory, Rept. UCID-19501 (March, 1983).

Hallquist, J.O., DYNA3D User's Manual (Nonlinear Dynamic Analysis of Solids in Three Dimensions), University of California, Lawrence Livermore National Laboratory, Rept. UCID-19156 (1988, Rev. 4).

Hallquist, J.O., LS-DYNA User's Manual (Nonlinear Dynamic Analysis of Solids in Three Dimensions), Livermore Software Technology Corporation, Rept. 1007 (1990).

Hallquist, J.O., D.J. Benson, and G.L. Goudreau, "Implementation of a Modified Hughes-Liu Shell into a Fully Vectorized Explicit Finite Element Code," Proceedings of the International Symposium on Finite Element Methods for Nonlinear Problems, University of Trondheim, Trondheim, Norway (1985).

Hallquist, J.O. and D.J. Benson, "A Comparison of an Implicit and Explicit Implementation of the Hughes-Liu Shell," Finite Element Methods for Plate and Shell Structures, T.J.R. Hughes and E. Hinton, Editors, 394-431, Pineridge Press Int., Swanea, U.K. (1986).

Hallquist, J.O. and D.J. Benson, DYNA3D User's Manual (Nonlinear Dynamic Analysis of Solids in Three Dimensions), University of California, Lawrence Livermore National Laboratory, Rept. UCID-19156 (Rev. 2: 1986; Rev. 3: 1987).

Hallquist, J.O., D.W. Stillman, T.J.R. Hughes, C. and Tarver,"Modeling of Airbags Using MVMA/DYNA3D," LSTC Report (1990).

Hashin, Z, "Failure Criteria for Unidirectional Fiber Composites," *Journal of Applied Mechanics*, 47, 329 (1980).

Hatchard, T.D., D. D. MacNeil, A. Basu, and J. R. Dahn, "Thermal Model of Cylindrical and Prismatic Lithium-Ion Cells", *J. of the Electrochemical Society*, 2001

Haßler, M., Schweizerhof, K., "On the influence of fluid-structure-interaction on the static stability of thin walled shell structures", *International Journal of Structural Stability*, Vol. 7, pp. 313–335, (2007).

REFERENCES

Haßler, M., Schweizerhof, K., "On the static interaction of fluid and gas loaded multi-chamber systems in a large deformation finite element analysis", *Computer Methods in Applied Mechanics and Engineering*, Vol. 197, pp. 1725–1749, (2008).

Hänsel, C., P. Hora, and J. Reissner, "Model for the Kinetics of Strain-Induced Martensitic Phase Transformation at Isothermal Conditions for the Simulation of Sheet Metal Forming Processes with Metastable Austenitic Steels," Simulation of Materials Processing: Theory, Methods, and Applications, Huétink and Baaijens (eds), Balkema, Rotterdam, (1998).

Haward, R.N., and Thackray, G., "The use of a mathematical model to describe isothermal stress-strain curves in glassy thermoplastics". *Proc Roy Soc A*, 302, 453-472 (1968).

Herrmann, L.R. and F.E. Peterson, "A Numerical Procedure for Viscoelastic Stress Analysis," Seventh Meeting of ICRPG Mechanical Behavior Working Group, Orlando, FL, CPIA Publication No. 177, 1968.

Hill A.V., "The heat of shortening and the dynamic constants of muscle," *Proc Roy Soc* B126:136-195, (1938).

Hill, R., "A Theory of the Yielding and Plastic Flow of Anisotropic Metals," *Proceedings of the Royal Society of London*, Series A., Vol. 193, pp. 281-197 (1948).

Hill, R., "Aspects of Invariance in Solid Mechanics," *Advances in Applied Mechanics*, Vol. 18, pp. 1-75 (1979).

Hill, R., "Constitutive Modeling of Orthotropic Plasticity in Sheet Metals," *J. Mech. Phys. Solids*, Vol. 38, No. 3, 1989, pp. 405-417.

Hippchen, P., Merklein, M., Lipp, A., Fleischer, M., Grass, H., Craighero, P., "Modelling kinetics of phase transformation for the indirect hot stamping process", *Key Engineering Materials*, Vol. 549, pages 108-116, (2013).

Hippchen, P., "Simulative Prognose der Geometrie indirekt pressgehärteter Karosseriebauteile für die industrielle Anwendung", Dissertation, Technische Fakultät der Friedrich-Alexander Universität Erlangen-Nürnberg, Meisenbach Verlag Bamberg, Band 249, (2014).

Hirth, A., P. Du Bois, and K. Weimar, "Improvement of LS-DYNA Material Law 83 (Fu Chang) for the Industrial Simulation of Reversible Energy-Absorbing Foams," CAD-FEM User's Meeting, Bad Neuenahr - Ahrweiler, Germany, October 7-9, Paper 2-40, (1998).

Hollenstein M., M. Jabareen, and M.B. Rubin, "Modelling a smooth elastic-inelastic transition with a strongly objective numerical integrator needing no iteration", Comput. Mech., Vol. 52, pp. 649-667, DOI 10.1007/s00466-013-0838-7 (2013).

Hollenstein M., M. Jabareen, and M.B. Rubin, "Erratum to: Modelling a smooth elastic-inelastic transition with a strongly objective numerical integrator needing no iteration", Comput. Mech., DOI 10.1007/s00466-014-1099-9 (2014).

Holmquist, T.J., G.R. Johnson, and W.H. Cook, "A Computational Constitutive Model for Concrete Subjected to Large Strains, High Strain Rates, and High Pressures", Proceedings 14th International Symposium on Ballistics, Quebec, Canada, pp. 591-600, (1993).

Hopperstad, O.S. and Remseth, S.," A return Mapping Algorithm for a Class of Cyclic Plasticity Models", *International Journal for Numerical Methods in Engineering*, Vol. 38, pp. 549-564, (1995).

Huang, Yuli, "Simulating the Inelastic Seismic Behavior of Steel Braced Frames Including the Effects of Low-Cycle Fatigue", Doctoral Dissertation, University of California, Berkeley (2009). Permalink: https://escholarship.org/uc/item/3dr054cx.

Hudson, C.C., "Sound Pulse Approximatons to Blast Loading (with comments on transient drag)", Rept. SC-TM-191-55-51, Sandia Corporation (1955).

Hughes, T.J.R. and E. Carnoy, "Nonlinear Finite Element Shell Formulation Accounting for Large Membrane strains," *AMD*-Vol.48, ASME, 193-208 (1981).

Hughes, T.J.R. and W.K. Liu, "Nonlinear Finite Element Analysis of Shells: Part I. Three-Dimensional Shells." *Comp. Meths. Appl. Mechs.*, 27, 331-362 (1981a).

Hughes, T.J.R. and W.K. Liu, "Nonlinear Finite Element Analysis of Shells: Part II. Two-Dimensional Shells." *Comp. Meths. Appl. Mechs.*, 27, 167-181 (1981b).

Hughes, T.J.R., W.K. Liu, and I. Levit, "Nonlinear Dynamics Finite Element Analysis of Shells." Nonlinear Finite Element Analysis in Struct. Mech., Eds. W. Wunderlich, E. Stein, and K.J. Bathe, Springer-Verlag, Berlin, 151- 168 (1981c).

Huh, H., Chung, K., Han, S.S., and Chung, W.J., "The NUMISHEET 2011 Benchmark Study of the 8th International Conference and Workshop on Numerical Simulation of 3D Sheet Metal Forming Processes, Part C Benchmark Problems and Results", p 171-228, Seoul, Korea, August, 2011.

Huh, H. and Kang, W.J., "Crash-Worthiness Assessment of Thin-Walled Structures with the High-Strength Steel Sheet", *Int. Journal of Vehicle Design*, Vol. 30, Nos. 1/2 (2002).

REFERENCES

Ibrahimbegovic, A. and Wilson, E.L. "A unified formulation for triangular and quadrilateral flat shell finite elements with six nodal degrees of freedom", Comm. Applied Num. Meth, 7, 1-9 (1991).

Isenberg, J., Vaughan, D.K., Sandler, I.S., Nonlinear Soil-Structure Interaction, Electric Power Research Institute report EPRI NP-945, Weidlinger Associates (1978).

Ivanov, I. and A. Tabiei, "Flexible Woven Fabric Micromechanical Material Model with Fiber Reorientation," Mechanics of Advanced Materials and Structures, Vol. 9, January 2002.

Ivanov, I., and A. Tabiei, "Loosely Woven Fabric Model With Viscoelastic Crimped Fibers for Ballistic Impact Simulations", IJNME, 57, (2004).

Jabareen, M., "Strongly objective numerical implementation and generalization of a unified large inelastic deformation model with a smooth elastic-inelastic transition", submitted to Int. J. Solids and Struct. (2015).

Jabareen, M., and Rubin, M.B., A Generalized Cosserat Point Element (CPE) for Isotropic Nonlinear Elastic Materials including Irregular 3-D Brick and Thin Structures, J. Mech. Mat. And Struct., Vol 3-8, 1465-1498 (2008).

Jabareen, M., Hanukah, E. and Rubin, M.B., A Ten Node Tetrahedral Cosserat Point Element (CPE) for Nonlinear Isotropic Elastic Materials, J. Comput. Mech. 52, 257-285 (2013).

Johnson, G.C. and D.J. Bammann, "A discussion of stress rates in finite deformation problems," *Int. J. Solids Struct*, 20, 725-737 (1984).

Johnson, G.R. and W.H. Cook, "A Constitutive Model and Data for Metals Subjected to Large Strains, High Strain Rates and High Temperatures." Presented at the Seventh International Symposium on Ballistics, The Hague, The Netherlands, April 1983.

Johnson, G.R. and T.J. Holmquist, "An Improved Computational Model for Brittle Materials" in High-Pressure Science and Technology - 1993 American Institute of Physics Conference Proceedings 309 (c 1994) pp.981-984 ISBN 1-56396-219-5.

Jones, R.M., Mechanics of Composite Materials, Hemisphere Publishing Corporation, New York, (1975).

Kanok-Nukulchai, W., "A Simple and Efficient Finite Element for General Shell Analysis", International Journal for Numerical Methods in Engineering, Vol. 14, pp. 179-200 (1979).

Kelly A., Stebner A.P. and Bhattacharya K., "A micromechanics-inspired constitutive model for shape-memory alloys that accounts for initiation and saturation of phase

transformation," Journal of the Mechanics and Physics of Solids, 97, 197–224 (2016).

Kenchington, G.J., "A Non-Linear Elastic Material Model for DYNA3D," Proceedings of the DYNA3D Users Group Conference, published by Boeing Computer Services (Europe) Limited (1988).

Key, S.W. HONDO – A Finite Element Computer Program for the Large Deformation Dynamic Response of Axisymmetric Solids, Sandia National Laboratories, Albuquerque, N.M., Rept. 74-0039 (1974).

Kim, G., Pesaran, A., and Spotnitz, R., "A Three-dimensional thermal abuse model for lithium-ion cells", *J. of Power Resources*, 2007.

Kolling, S., Haufe, A., Feucht, M., DuBois, P. A. "SAMP-1: A Semi-Analytical Model for the Simulation of Polymers", 4. LS-DYNA Anwenderforum, October 20-21, Bamberg, Germany, (2005).

Kolling, S., Hirth, A., Erhart, and Du Bois P.A., Private Communication, Livermore, California (2006).

Krieg, R.D.,A Simple Constitutive Description for Cellular Concrete, Sandia National Laboratories, Albuquerque, NM, Rept. SC-DR-72-0883 (1972).

Krieg, R.D. and S.W. Key, "Implementation of a Time Dependent Plasticity Theory into Structural Computer Programs," Vol. 20 of Constitutive Equations in Viscoplasticity: Computational and Engineering Aspects (American Society of Mechanical Engineers, New York, N.Y., pp. 125-137 (1976).

Lademo, O.G., Berstad, T., Tryland, T., Furu, T., Hopperstad, O.S. and Langseth, M., "*A model for process-based crash simulation*", 8th International LS-DYNA User's Conference, Detroit, May 3-5, 2004.

Lademo, O.G., Hopperstad, O.S., Berstad, T. and Langseth M., "Prediction of Plastic Instability in Extruded Aluminum Alloys Using Shell Analysis and a Coupled Model of Elasto-plasticity and Damage," Journal of Materials Processing Technology, 2002 (Article in Press).

Lademo, O.G., Hopperstad, O.S., Malo, K.A. and Pedersen, K.O., "Modelling of Plastic Anisotropy in Heat-Treated Aluminum Extrusions", Journal of Materials Processing Technology **125-126**, pp. 84-88 (2002).

Lee, E.L. and C.M. Tarver, "Phenomenological Model of Shock Initiation in Heterogenous Explosives," PHYS. Fluids, Vol. 23, p. 2362 (1980).

REFERENCES

Lee, Y. L. and S Balur of Chrysler Group LLC, "Method of predicting spot weld failure" (Attorney Docket No 708494US2), filed on December 22, 2011 and assigned US Serial No. 13/334,701.

Lehane, B. & Simpson, B., "Modelling glacial till conditions using a Brick soil model", Can. Geotech. J. Vol. 37, No. 5, 1078–1088 (2000).

Lemaitre, J., A Course on Damage Mechanics, Springer-Verlag, (1992).

Lemaitre, J., and Chaboche, J.L., Mechanics of Solid Materials, Cambridge University Press, (1990).

Lemmen, P. P. M. and Meijer, G. J., "Failure Prediction Tool Theory and User Manual," TNO Report 2000-CMC-R0018, (2001).

Lewis, B.A., "Developing and Implementing a Road Side Safety Soil Model into LS-DY-NA," FHWA Research and Development Turner-Fairbank Highway Research Center, (1999).

Li, Y.H. and Sellars, C.M., "Modeling Deformation Behavior of Oxide Scales and their Effects on Interfacial Heat Transfer and Friction during Hot Steel Rolling", Proc. Of the 2nd Int. Conf. Modeling of Metals Rolling Processes, The Insitute of Materials, Londong, UK, 192-201 (1996).

Lian, W., personal communication: "LS-DYNA Airbag Module Improvement Request", General Motors Corporation (2000).

Lindström P.R.M, "DNV Platform of Computational Welding Mechanics", Proc. of Int. Inst. Welding 66th Annual Assembly (2013).

Lindström, P., "Improved CWM platform for modelling welding procedures and their effects on structural behaviour", PhD Thesis, Production Technology, University West, Trollhättan, Sweden (2015).

Liu, Z. and C.T. Wu, "Exploring the 3D architectures of deep material network in data-driven multiscale mechanics," Journal of the Mechanics and Physics of Solids, Vol. 127, pp. 20-46, (2019).

Liu, Z., C.T. Wu, and M. Koishi, "A deep material network for multiscale topology learning and accelerated nonlinear modeling of heterogeneous materials," Computer Methods in Applied Mechanics and Engineering, Vol. 345, pp. 1138-1168, (2019).

Liu, Z., C.T. Wu, and M. Koishi, "Transfer learning of deep material network for seamless structure-property predictions," Computer Mechanics, Vol. 64, pp. 451-465, (2019).

Liu, Z., H. Wei, T. Huang, and C.T. Wu, "Intelligent multiscale simulation based on process-guided composite database," (2020). https://arxiv.org/abs/2003.09491

Luo, Y. "An Efficient 3D Timoshenko Beam Element with Consistent Shape Functions" *Adv. Theor. Appl. Mech.*, 1(3), 95-106, (2008).

MacNeil, D.D. and J. R. Dahn, J.R., "Test of Reaction Kinetics Using Both Differential Scanning and Accelerating Rate Calorimetries as Applied to the Reaction of LixCoO2 in Non-aqueous Electrolyte", *J. Phys Chem.*, 2001.

MADYMO3D USER'S MANUAL, Version 4.3, TNO Road-Vehicles Research Institute, Department of Injury Prevention, The Hague, The Netherlands, (1990).

Maimí, P., Camanho, P.P., Mayugo, J.A., Dávila, C.G., "A continuum damage model for composite laminates: Part I – Constitutive model", *Mechanics of Materials*, Vol. 39, pp. 897–908, (2007).

Maimí, P., Camanho, P.P., Mayugo, J.A., Dávila, C.G., "A continuum damage model for composite laminates: Part II – Computational implementation and validation", *Mechanics of Materials*, Vol. 39, pp. 909–919, (2007).

Maker, B.N., Private communication Lawrence Livermore National Laboratory, Dr. Maker programmed and implemented the compressible Mooney Rivlin rubber model (1987).

Makris N. and Zhang, J., "Time-domain visco-elastic analysis of earth structures," *Earthquake Engineering and Structural Dynamics*, vol. 29, pp. 745–768, (2000).

Malvar, L.J., Crawford, J.E., Morrill, K.B., K&C Concrete Material Model Release III — Automated Generation of Material Model Input, K&C Technical Report TR-99-24-B1, 18 August 2000 (*Limited Distribution*).

Malvar, L.J., Crawford, J.E., Wesevich, J.W., Simons, D., "A Plasticity Concrete Material Model for DYNA3D," *International Journal of Impact Engineering*, Volume 19, Numbers 9/10, pages 847-873, December 1997.

Malvar, L.J., and Ross, C.A., "Review of Static and Dynamic Properties of Concrete in Tension," *ACI Materials Journal*, Volume 95, Number 6, pages 735-739, November-December 1998.

Malvar, L.J., and Simons,D., "Concrete Material Modeling in Explicit Computations," Proceedings, Workshop on Recent Advances in Computational Structural Dynamics and High Performance Computing, USAE Waterways Experiment Station, Vicksburg, MS, pages 165-194, April 1996. (LST may provide this reference upon request.)

REFERENCES

Malvar, H.S., Sullivan, G.S., and Wornell, G.W., "Lapped Orthogonal Vector Quantization", in Proc. Data Compression Conference, Snowbird, Utah, 1996.

Marin, E.B., Bamman, D.J., Regueiro, R.A., and Johnson, G.C., "On the Formulation, Parameter Identification, and Numerical Integration of the EMMI Model: Plasticity and Isotropic Damage," Sandia Report, Sand 2006-0200, Sandia National Laboratory, CA (2006).

Matzenmiller, A. and Burbulla, F., " Robustheit und Zuverlässigkeit der Berechnungsmethoden von Klebverbindungen mit hochfesten Stahlblechen unter Crashbedingungen" (2013), http://www.ifm.maschinenbau.uni-kassel.de/~amat/publikationen/p75_p828-modellerweiterung.pdf

Matzenmiller, A., Lubliner, J., and Taylor, R.L., "A Constitutive Model for Anisotropic Damage in Fiber-Composites," Mechanics of Materials, Vol. 20, pp. 125-152 (1995).

Matzenmiller, A. and J. K. Schweizerhof, "Crashworthiness Considerations of Composite Structures – A First Step with Explicit Time Integration in Nonlinear Computational Mechanics–State-of-the-Art," Ed. P. Wriggers, W. Wagner, Springer Verlay, (1991).

Mauldin, P.J., R.F. Davidson, and R.J. Henninger, "Implementation and Assessment of the Mechanical-Threshold-Stress Model Using the EPIC2 and PINON Computer Codes," Report LA-11895-MS, Los Alamos National Laboratory (1990).

Maurer, A., Gebhardt, M., Schweizerhof, K., "Computation of fluid and/or gas filled inflatable dams", LS-Dyna Forum, Bamberg, Germany, (2010).

McCormick, P.G., "Theory of flow localization due to dynamic strain ageing," *Acta Metallurgica*, 36, 3061-3067 (1988).

Mi Y., Crisfield, M.A., Davies, A.O. Progressive delamination using interface elements. *J Compos Mater*, 32(14)1246-72 (1998).

Michael, L. and N. Nikiforakis, "A hybrid formulation for the numerical simulation of condensed phase explosives," J. Comp. Phys. 316 (2016) 193-217.

Moran, B., Ortiz, M. and Shih, C.F., "Formulation of implicit finite element methods for multiplicative finite deformation plasticity". *Int J for Num Methods in Engineering*, 29, 483-514 (1990).

Morrison, F. A., An Introduction to Fluid Mechanics. Cambridge University Press, New York, 2013. This correlation appears in Figure 8.13 on page 625.

de Moura MFSF, Gonçalves, J.P., Marques, A.T., and de Castro, P.T., Elemento finito isoparamétrico de interface para problemas tridimensionais. *Revista Internacional de Métodos Numéricos Para Cálculo e Diseño en Ingeniería*, 14:447-66 (1996).

Murray, Y.D., Users Manual for Transversely Isotropic Wood Model APTEK, Inc., Technical Report to the FHWA (to be published) (2002).

Murray, Y.D. and Lewis, B.A., Numerical Simulation of Damage in Concrete APTEK, Inc., Technical Report DNA-TR-94-190, Contract DNA 001-91-C-0075, Defense Nuclear Agency, Alexandria VA 22310.

Murray, Y.D., Users Manual for LS-DYNA Concrete Material Model 159, Report No. FH-WA-HRT-05-062, Federal Highway Administration, (2007).

Murray, Y.D., A. Abu-Odeh, and R. Bligh, Evaluation of Concrete Material Model 159, Report No. FHWA-HRT-05-063, Federal Highway Administration, (2007).

Muscolini, G., Palmeri, A. and Ricciardelli, F., "Time-domain response of linear hysteretic systems to deterministic and random excitations," *Earthquake Engineering and Stuctrual Dynamics*, vol. 34, pp. 1129–1147, (2005).

Nagararaiah, Reinhorn, & Constantinou, "Nonlinear Dynamic Analysis of 3-D Base-Isolated Structures", *Jounal of Structural Engineering* Vol 117, No 7, (1991).

Nahshon, K. and Hutchinson, J.W., "Modification of the Gurson Model for shear failure", *European Journal of Mechanics A/Solids*, Vol. 27, 1-17, (2008).

Naik D., Sankaran S., Mobasher D., Rajan S.D., Pereira J.M., "Development of reliable modeling methodologies for fan blade out containment analysis – Part I: Experimental studies", International Journal of Impact Engineering, Volume 36, Issue 1, Pages 1-11, (2009)

Neal, M.O., C-H Lin, and J. T. Wang, "Aliasing Effects on Nodal Acceleration Output from Nonlinear Finite Element Simulations," ASME 2000 International Mechanical Engineering Congress and Exposition, Orlando, Florida, November 5-10, (2000).

Neilsen, M.K., H.S. Morgan, and R.D. Krieg, "A Phenomenological Constitutive Model for Low Density Polyurethane Foams," Rept. SAND86-2927, Sandia National Laboratories, Albuquerque, N.M., (1987).

Neukamm, F., Feucht, M., Haufe, A., Roll, K., "On Closing the Constitutive Gap between Forming and Crash Simulation", 10th International LS-DYNA Users Conference, Dearborn, MI, (2008).

Nie, J., R. Morante, M. Mirand, and J. Braverman, "On the Correct Application of the 100-40-40 Rule for Combining Responses Due to Three Directions of Earthquake

Loading", Proceedings of the ASME 2010 Pressure Vessels & Piping Division / K-PVP Conference, Bellevue, WA (2010).

Nusholtz, G., W. Fong, and J. Wu, "Air Bag Wind Blast Phenomena Evaluation," *Experimental Techniques*, Nov.-Dec. (1991).

Nusholtz, G., D. Wang, and E.B. Wylie, "Air Bag Momentum Force Including Aspiration," Preprint, Chrysler Corporation, (1996).

Nusholz, private communication, (1996).

Nygards, M., M. Just, and J. Tryding, "Experimental and numerical studies of creasing of paperboard," *Int. J. Solids and Struct.*, 46, 2493-2505 (2009).

Ogden, R.W., Non-Linear Elastic Deformations, Ellis Horwood Ltd., Chichester, Great Britian (1984).

Oliver, J., "A Consistent Characteristic Length of Smeared Cracking Models," *International Journal for Numerical Methods in Engineering*, **28**, 461-474 (1989).

Ottosen N.S., "A failure criterion for concrete". Journal of the Engineering Mechanics Division 103(4):527-35, 1977.

Pack, K., Mohr, D., "Combined necking & fracture model to predict ductile failure with shell finite elements", *Engineering Fracture Mechanics*, Vol. 182, pp. 32-51 (2017).

Papadrakakis, M., "A Method for the Automatic Evaluation of the Dynamic Relaxation Parameters," *Comp. Meth. Appl. Mech. Eng.*, Vol. 25, pp. 35-48 (1981).

Park, R. and Paulay, T., (1975) Reinforced Concrete Structures, J. Wiley and Sons, New York.

Park, Y.J., Wen, Y.K, and Ang, A.H-S, "Random Vibration of Hysteretic Systems Under Bi-directional Ground Motions", *Earthquake Engineering and Structural Dynamics*, Vol. 14, pp. 543-557 (1986).

Penelis, G.G. and Kappos, A.J., Earthquake-Resistant Concrete Structures, E&FN Spon., (1997).

Perzyna, P., "Fundamental problems in viscoplasticity", *Rec. Adv. Appl. Mech.*, Vol. 9, 243-377 (1966).

Pijaudier-Cabot, G., and Bazant, Z.P., "Nonlocal Damage Theory," *Journal of Engineering Mechanics*, ASCE, Vol. 113, No. 10, 1512-1533 (1987).

Pinho, S.T., Iannucci, L., Robinson, R., "Physically-based failure models and criteria for laminated fibre-reinforced composites with emphasis on fibre kinking: Part I: Development", *Composties Part A*, Vol. 37, 63-73 (2006).

Pinho, S.T., Iannucci, L., Robinson, R., "Physically-based failure models and criteria for laminated fibre-reinforced composites with emphasis on fibre kinking: Part II: FE implementation", *Composties Part A*, Vol. 37, 766-777 (2006).

Porcaro, R., A.G. Hanssen, A. Aalberg and M. Langseth, "The behaviour of aself-piercing riveted connection under quasi-static loading conditions," *Int. J. Solids and Structures,* Vol. 43/17, pp. 5110-5131 (2006).

Porcaro, R., A.G. Hanssen, A. Aalberg and M. Langseth, "Self-piercing riveting process, an experimental and numerical investigation," *Journal of Materials processing Technology*, Vol. 171/1, pp. 10-20 (2006).

Porcaro, R., M. Langseth, A.G. Hanssen, H. Zhao, S. Weyer and H. Hooputra, "Crashworthiness of self-piercing riveted connections," *International Journal of Impact Engineering*, In press, Accepted manuscript (2007).

Puck, A., Kopp, J., Knops, M., "Guidelines for the determination of the parameters in Puck's action plane strength criterion", *Composites Science and Technology*, Vol. 62, 371-378 (2002).

Puso, M.A., "A Highly Efficient Enhanced Assumed Strain Physically Stabilized Hexahedral Element", *Int. J. Numer. Meth. Eng.*, Vol. 49, 1029-1064 (2000).

Puso, M.A., and Laursen, T.A., "A Mortar segment-to-segment contact method for large deformation solid mechanics", *Comput. Methods Appl. Mech. Engrg*. 193 (2004) 601-629.

Puso, M.A., and Laursen, T.A., "A Mortar segment-to-segment frictional contact method for large deformations", *Comput. Methods Appl. Mech. Engrg*. 193 (2004) 4891-4913.

Puso, M.A. and Weiss, J.A., "Finite Element Implementation of Anisotropic Quasilinear Viscoelasticity Using a Discrete Spectrum Approximation", *ASME J. Biomech. Engng.*, 120, 62-70 (1998).

Pelessone, D., Private communication, GA Technologies, P.O. Box 85608, San Diego, CA., Telephone No. 619-455-2501 (1986).

Quapp, K.M. and Weiss, J.A., "Material Characterization of Human Medial Collateral Ligament", *ASME J. Biomech Engng.*, 120, 757-763 (1998).

Reyes, A., O.S. Hopperstad, T. Berstad, and M. Langseth, Implementation of a Material Model for Aluminium Foam in LS-DYNA, Report R-01-02, Restricted, Department

of Structural Engineering, Norwegian University of Science and Technology, (2002).

Randers-Pehrson, G. and K. A. Bannister, Airblast Loading Model for DYNA2D and DYNA3D, Army Research Laboratory, Rept. ARL-TR-1310, publicly released with unlimited distribution, (1997).

Richards, G.T., Derivation of a Generalized Von Neuman Psuedo-Viscosity with Directional Properties, University of California, Lawrence Livermore National Laboratory, Rept. UCRL-14244 (1965).

Riedel W., Thoma K., Hiermaier S. and Schmolinske E., "Penetration of reinforced concrete by BETA-B-500", in Proc. 9. ISIEMS, Berlin Strausberg, Mai (1999).

Riedel W., "Beton unter Dynamischen Lasten – Meso- und Makromechanische Modelle" In: Ernst-Mach-Institut, editor. Freiburg: Fraunhofer IRB, ISBN 3-8167-6340-5; 2004.

Ritto-Corrêa M. and Camotim D., "On the arc-length and other quadratic control methods: Established, less known and new implementation procedures", *Comput. Struct.*, 86, pp. 1353-1368 (2008).

Roussis, P.C., and Constantinou, M.C., "Uplift-restraining Friction Pendulum seismic isolation system", *Earthquake Engineering and Structural Dynamics*, 35 (5), 577-593, (2006).

Rudshaug, J., Aasen, K.O., Hopperstad, O.S., Børvik, T., "A physically based strength prediction model for glass" , *International Journal of Solids and Structures*, 285, (2023).

Rumpel, T., Schweizerhof, K., "Volume-dependent pressure loading and its influence on the stability of structures", *International Journal for Numerical Methods in Engineering*, Vol. 56, pp. 211-238, (2003).

Rumpel, T., Schweizerhof, K., "Hydrostatic fluid loading in non-linear finite element analysis", *International Journal for Numerical Methods in Engineering*, Vol. 59, pp. 849–870, (2004).

Rupp, A., Grubisic, V., and Buxbaum, O., Ermittlung ertragbarer Beanspruchungen am Schweisspunkt auf Basis der ubertragbaren Schnittgrossen, FAT Schriftenreihe 111, Frankfurt (1994).

Sala, M.O. Neal, and J.T. Wang, Private Communication, General Motors, May, 2004.

Sackett, S.J., "Geological/Concrete Model Development," Private Communication (1987).

Sahraei, E., Bosco, E., Dixon, B., Lai, B., "Microscale failure mechanisms leading to internal short circuit in Li-ion batteries under complex loading scenarios", *Journal of Power Sources*, Vol. 319, pp. 56-65, (2016).

Sandler, I.S. and D. Rubin, "An Algorithm and a Modular Subroutine for the Cap Model," *Int. J. Numer. Analy. Meth. Geomech.*, 3, pp. 173-186 (1979).

Schedin, E., Prentzas, L. and Hilding D., "Finite Element Simulation of the TRIP-effect in Austenitic Stainless Steel," presented at SAE 2004, SAE Technical paper 2004-01-0885, (2004).

Schulte-Frankenfeld N., Deiters, T., "General Introduction to FATXML – data format", https://www.vda.de/dam/vda/publications/FATXML-Format%20Version%20V1.1/1305643077_de_2066216985.zip, (2016).

Schweizerhof, K. and E. Ramm, "Displacement Dependent Pressure Loads in Nonlinear Finite Element Analyses," *Comput. Struct.*, 18, pp. 1099-1114 (1984).

Schwer, L.E., "A Viscoplastic Augmentation of the Smooth Cap Model," *Nuclear Engineering and Design*, Vol. 150, pp. 215-223, (1994).

Schwer, L.E., "Demonstration of the Continuous Surface Cap Model with Damage: Concrete Unconfined Compression Test Calibration," LS-DYNA Geomaterial Modeling Short Course Notes, July (2001).

Schwer, L.E., W. Cheva, and J.O. Hallquist, "A Simple Viscoelastic Model for Energy Absorbers Used in Vehicle-Barrier Impact," in Computation Aspects of Contact, Impact, and Penetration, Edited by R.F. Kulak and L.E. Schwer, Elmepress International, Lausanne, Switzerland, pp. 99-117 (1991).

Schwer, L.E. and Y.D. Murray, "A Three-Invariant Smooth Cap Model with Mixed Hardening", *International Journal for Numerical and Analytical Methods in Geomechanics*, Volume 18, pp. 657-688, (1994).

Seeger, F., M. Feucht, T. Frank (DaimlerChrysler AG), and A. Haufe, B. Keding (DY-NAmore GmbH), "An Investigation on Spotweld Modeling for Crash Simulation with LS-DYNA", 4th LS-DYNA-Forum, Bamburg, Germany, October (2005), ISBN 3-9809901-1-7.

Shi, M.F., and Gelisse, S., "Issues on the AHSS Forming Limit Determination", International Deep Drawing Research Group (IDDRG), Porto, Portugal, June, 2006.

Shi, M.F., Zhu, X.H., Xia, C., and Stoughton T., "Determination of Nonlinear Isotropic/Kinematic Hardening Constitutive Parameter for AHSS using Tension and Compression Tests", p. 137-142, Proceedings of the 7th International

Conference and Workshop on Numerical Simulation of 3D Sheet Metal Forming Processes (NUMISHEET 2008), Interlaken, Switzerland, September, 2008.

Sheppard, S.D., "Estimations of Fatigue Propagation Life in Resistance Spot Welds", ASTM STP 1211, pp. 169-185, (1993).

Sheppard, T. and Wright, D.S., "Determination of flow stress: Part 1 constitutive equation for aluminum alloys at elevated temperatures", *Metals Technology*, p. 215, June 1979.

Shvets, I.T. and Dyban, E., P., "Contact Heat Transfer between Plane Metal Surfaces", *Int. Chem. Eng.*, Vol. 4, No. 4, 621 (1964).

Simo, J.C., J.W. Ju, K.S. Pister, and R.L. Taylor, "An Assessment of the Cap Model: Consistent Return Algorithms and Rate-Dependent Extension", *J. Eng. Mech.*, Vol. 114, No. 2, 191-218 (1988a).

Simo, J.C., J.W. Ju, K.S. Pister, and R.L. Taylor, "Softening Response, Completeness Condition, and Numerical Algorithms for the Cap Model", *Int. J. Numer. Analy. Meth. Eng.*, (in press) (1988b).

Simo, J. C., J.W. Ju, K.S. Pister, and R.L. Taylor, "Softening Response, Completeness Condition, and Numerical Algorithms for the Cap Model", *Int. J. Numer. Analy. Meth. Eng.* (1990).

Simo, J. C. and M.S. Rafai, "A Class of Mixed Assumed Strain Methods and the Method of Incompatible Modes", *Int. J. Numer. Meth. Eng.,* Vol 29, 1595-1638 (1990).

Simo, J.C., F. Armero and R.L. Taylor, "Improved Versions of Assumed Strain Tri-Linear Elements for 3D Finite Deformation Problems", *Comput. Methods in Appl. Mech. Eng.*, Vol 110, 359-386 (1993).

Simpson, B., "Retaining structures: displacement and design", Géotechnique, Vol. 42, No. 4, 539-576, (1992).

Solberg, J.M., and C.M. Noble, "Contact Algorithm for Small-Scale Surface Features with Application to Finite Element Analysis of Concrete Arch Dams with Beveled Contraction Joints", Lawrence Livermore National Laboratory (2002).

Souli, M., R. Messahe, B. Cohen, N. Aquelet, "Numerical Investigation of Phase Change and Cavitation Effects in Nuclear Power Plant Pipes", 13th International LS-DYNA Conference, Dearborn MI, (2014).

Spanos, P.D. and Tsavachidis, S., "Deterministic and stochastic analyses of a nonlinear system with a Biot visco-elastic element", *Earthquake Engineering and Structural Dynamics*, vol. 30, pp. 595–612, (2001).

Steinberg, D.J. and M.W. Guinan, A High-Strain-Rate Constitutive Model for Metals, University of California, Lawrence Livermore National Laboratory, Rept. UCRL-80465 (1978).

Steinberg, D.J. and C.M. Lund, "A Constitutive Model for Strain Rates form 10^{-4} to 10^{6} S^{-1}," *J. Appl. Phys.*, 65, p. 1528 (1989).

Stillman, D.W. and J.O. Hallquist, INGRID: A Three-Dimensional Mesh Generator for Modeling Nonlinear Systems, University of California, Lawrence Livermore National Laboratory, Rept. UCID-20506. (1985).

Stojko, S., privated communication, NNC Limited, Engineering Development Center (1990).

Stahlecker Z., Mobasher B., Rajan S.D., Pereira J.M., "Development of reliable modeling methodologies for engine fan blade out containment analysis. Part II: Finite element analysis", International Journal of Impact Engineering, Volume 36, Issue 3, Pages 447-459, (2009)

Storakers, B., "On material representation and constitutive branching in finite compressible elasticity", J. Mech. Phy. Solids, 34 No. 2, 125-145 (1986).

Stouffer and Dame, Inelastic Deformation of Metals, Wiley, (1996).

Stout, M.G., D.E. Helling, T.L. Martin, and G.R. Canova, *Int. J. Plasticity*, Vol. 1, pp. 163-174, (1985).

Structural Engineers Association of California, Tentative Lateral Force Requirements, Seismology Committee, SEAOC, 1974, 1990, 1996.

Sturt, R., Montalbini, G. & Jung, H-I., "Developments in *MAT_WINFRITH_CONCRETE and Application to Modelling Tunnel Linings", 14th European LS-DYNA Conference, 2023.

Sussman, T. and Bathe, K.J., "A Finite Element Formulation for Nonlinear Incompressible Elastic and Inelastic Analysis," *Computers & Structures*, **26**, Number 1/2, 357-409 (1987).

Tabiei, A. and G. Nilikantan, "Ballistic Impact of Dry Woven Fabric Composites: A Review," Applied Mechanics Review, January 2008, Vol. 61, Issue 1, p. 10801.

Tabiei, A. and I. Ivanov, "Computational micro-mechanical Model of Flexible Woven Fabric for Finite Element Impact Simulation," IJNME, 53, (6), 1259-1276, (2002).

Tabiei, A., Development and Implementation of *MAT_278 into LS-DYNA, Private Communications, 2016.

REFERENCES

Tabiei, A., Implementation of elastic/viscoelastic layered *MAT_076 into LS-DYNA, Private Communications, 2000.

Tabiei, A., Implementation of LAMSHL into *CONTROL_SHELL, Private Communications, 2001.

Tabiei, A., Implementation of *MAT_141 into LS-DYNA, Private Communications, 2005.

Taerwe L, Matthys S., "Fib model code for concrete structures", CEB-FIP, 2010.

Tahoe User Guide, Sandia National Laboratory, can be downloaded from: www.sandia.gov, Input version 3.4.1, (2003).

Taiebat M. and Dafalias, Y. F. "SANISAND: simple anisotropic sand plasticity model." *International Journal for Numerical and Analytical Methods in Geomechanics*, 32(8), 915–948 (2008).

Tanov, R. and A. Tabiei, "Adding transverse normal stresses to layered shell finite elements for the analysis of composite structures," Composite Structures, Vol. 76, Issue 4, December 2006.

Tarver, C. M., "Ignition and Growth modeling of LX-17 hockey puck experiments," Propellants Explos. Pyrotech. 30 (2) (2005) 109–117.

Tarver, C. M. and P. Urtiew, "Theory and modeling of liquid explosive detonation," J. Energ. Mater. 28 (4) (2010) 299–317.

Taylor, L.M. and D.P. Flanagan, PRONTO3D A Three-Dimensional Transient Solid Dynamics Program, Sandia Report: SAND87-1912, UC-32, (1989).

Taylor, R.L. Finite element analysis of linear shell problems, *in Whiteman, J.R. (ed.),* Proceedings of the Mathematics in Finite Elements and Applications, Academic Press, New York, 191-203, (1987).

Taylor, R.L. and Simo, J.C. Bending and membrane elements for the analysis of thick and thin shells, *Proc. of NUMETA Conference*, Swansea (1985).

Tomek J., Bueno-Orovio A., Passini E., Zhou X., Minchole A., Britton O., Bartolucci C., Severi S., Shrier A., Virag L., Varro A., and Rodriguez B., "Development, calibration, and validation of a novel human ventricular myocyte model in health, disease, and drug block," Elife (2019).

Tsai, S.W. and E.M. Wu, "A General Theory of Strength for Anisotropic Materials," J. Composite Materials, 5, pp. 73-96 (1971).

Tuler, F.R. and B.M. Butcher, "A Criterion for the Time Dependence of Dynamic Fracture," *The International Journal of Fracture Mechanics*, Vol. 4, No. 4, (1968).

Tvergaard, V. and J.W. Hutchinson, "The relation between crack growth resistance and fracture process parameters in elastic-plastic solids," *J. of the Mech. And Phy. of Solids*, 40, pp1377-1397, (1992)

Tvergaard, V. and Needleman, A., "Analysis of the cup-cone fracture in a round tensile bar", *Acta Metallurgica*, 32, 157-169 (1984).

Vawter, D., "A Finite Element Model for Macroscopic Deformation of the Lung," published in the *Journal of Biomechanical Engineering*, Vol.102, pp. 1-7 (1980).

VDA Richtlinier (Surface Interfaces), Version 20, Verband der Automobilindustrie e.v., Frankfurt, Main, Germany, (1987).

Vecchio, F.J. and Collins, M.P., "The Modified Compression-Field Theory for Reinforced Concrete Elements Subjected to Shear", ACI J 83(2) (1986) pp219-231, 1986.

Vegter, H., Horn, C.H.L.J. ten, An, Y., Atzema, E.H., Pijlman, H.H., Boogaard, A.H. van den, Huetink, H., "Characterisation and Modelling of the Plastic Material Behaviour and its Application in Sheet Metal Forming Simulation", *Proceedings of 7th International Conference on Computational Plasticity COMPLAS VII*, Barcelona (2003).

Vegter, H., and Boogaard, A.H. van den, "A plane stress yield function for anisotropic sheet material by interpolation of biaxial stress states", *International Journal of Plasticity* 22, 557-580 (2006).

Walker, J.C., Ratcliffe M.B., Zhang P., Wallace A.W., Fata, B., Hsu E., Saloner D., and Guccione J.M. "MRI-based finite-element analysis of left ventricular aneurysm", Am J Physiol Heart Circ Physiol 289(2): H692:700 (2005).

Wang, J.T. and O.J. Nefske, "A New CAL3D Airbag Inflation Model," SAE paper 880654, 1988.

Wang, J.T., "An Analytical Model for an Airbag with a Hybrid Inflator", Publication R&D 8332, General Motors Development Center, Warren, Mi. (1995).

Wang, J.T., "An Analytical Model for an Airbag with a Hybrid Inflator", *AMD*-Vol. 210, *BED*-Vol. 30, ASME, pp 467-497, (1995).

Wang, K., Y. J. Chao, Y. J., X. Zhu., and K.W. Miller "Dynamic Separation of Resistance Spot Welded Joints: Part II—Analysis of Test Results and a Model" *Exp Mech* Vol 50, Issue 7, pp 901-913 (2010).

Wei, H., C.T. Wu, D. Lyu, W. Hu, F.H. Rouet, K. Zhang, P. Ho, H. Oura, M. Nishi, T. Naito, and L. Shen, "Multiscale simulation of short-fiber-reinforced composites from computational homogenization to mechanistic machine learning in LS-DYNA," 13th European LS-DYNA Conference, Ulm, Germany (2021). Vol. 64, pp.

451-465, (2019). https://www.dynalook.com/conferences/13th-european-ls-dyna-conference-2021.

Wei, H., Wu, C. T., Hu, W., Su, T. H., Oura, H., Nishi, M., Naito, T., Chung, S., Shen, L., "LS-DYNA Machine Learning–Based Multiscale Method for Nonlinear Modeling of Short Fiber–Reinforced Composites." Journal of Engineering Mechanics, 149(3), 04023003, (2023).

Weiss, J.A., Maker, B.N. and Govindjee, S., "Finite Element Implementation of Incompressible, Transversely Isotropic Hyperelasticity", *Comp. Meth. Appl. Mech. Eng.*, 135, 107-128 (1996).

Wen, T.K. "Method for Random Vibration of Hysteretic Systems", *J. Engrg. Mech., ASCE*, Vol. 102, No. EM2, Proc. Paper 12073, pp.249-263 (1976).

Whirley, R. G., and J. O. Hallquist, DYNA3D, A Nonlinear, Explicit, Three-Dimensional Finite Element Code for Solid and Structural Mechanics-Users Manual, Report No.UCRL-MA-107254 , Lawrence Livermore National Laboratory, (1991).

Whirley, R. G., and G.A. Henshall, "Creep Deformation Structural Analysis Using An Efficient Numerical Algorithm," *IJNME*, Vol. 35, pp. 1427-1442, (1992).

Wilkins, M.L., "Calculations of Elastic Plastic Flow," *Meth. Comp. Phys.*, **3**, (Academic Press), 211-263 (1964).

Wilkins, M.L., Calculation of Elastic-Plastic Flow, University of California, Lawrence Livermore National Laboratory, Rept. UCRL-7322, Rev. I (1969).

Wilkins, M.L., The Use of Artificial Viscosity in Multidimensional Fluid Dynamics Calculations, University of California, Lawrence Livermore National Laboratory, Rept. UCRL-78348 (1976)

Wilkins, M.L., R.E. Blum, E. Cronshagen, and P. Grantham, A Method for Computer Simulation of Problems in Solid Mechanics and Gas Dynamics in Three Dimensions and Time, University of California, Lawrence Livermore National Laboratory, Rept. UCRL-51574 (1974).

Wilkins, M.L., J.E. Reaugh, B. Moran, J.K. Scudder, D.F. Quinones, M.E. Prado, Fundamental Study of Crack Initiation and Propagation Annual Progress Report, Report UCRL-52296, Lawrence Livermore National Laboratory, Livermore, CA. (1977).

Wilkins, M.L, Streit, R.D, and Reaugh, J.E. Cumulative-Strain-Damage Model of Ductile Fracture: Simulation and Prediction of Engineering Fracture Tests, Report UCRL-53058, Lawrence Livermore National Laboritory, Livermore, CA (1980).

Williams K. V., Vaziri R., Poursartip A., "A Physically Based Continuum Damage Mechanics Model for Thin Laminated Composite Structures." *Int J Solids Struct,* Vol 40(9), 2267-2300

Wilson, E.L. *Three Dimensional Static and Dynamic Analysis of Structures,* Computers and Structures, Inc., Berkeley CA, (2000).

Winters, J.M., "Hill-based muscle models: A systems engineering perspective," In Multiple Muscle Systems: Biomechanics and Movement Organization, JM Winters and SL-Y Woo eds, Springer-Verlag (1990).

Winters J.M. and Stark L., "Estimated mechanical properties of synergistic muscles involved in movements of a variety of human joints," *J Biomechanics* 21:1027-1042, (1988).

Woodruff, J.P., KOVEC User's Manual, University of California, Lawrence Livermore National Laboratory, Report UCRL-51079, (1973).

Worswick, M.J., and Xavier Lalbin, Private communication, Livermore, California, (1999).

Wu Y., John E. Crawford, Shengrui Lan, and Joseph M., "Validation studies for concrete constitutive models with blast test data", 13th International LS-DYNA User's Conference, Dearborn MI, (2014).

Xia, Q.S., M.C. Boyce, and D.M. Parks, "A constitutive model for the anisotropic elasticplastic deformation of paper and paperboard," *Int. J. Solids and Struct.*, 39, 4053-4071 (2002).

Yamasaki, H., M. Ogura, R. Nishimura, and K. Nakamura, "Development of Material Model for Crack Propagation of Casting Aluminum", Presented at the 2006 JSAE Annual Congress, Paper Number 20065077, (2006).

Yen, C.F., "Ballistic Impact Modeling of Composite Materials", Proceedings of the 7th International LS-DYNA Users Conference, Dearborn, MI, May 19-21, 2002, 6.15-6.25.

Yoshida, F. and Uemori, T., "A Model of Large-Strain Cyclic Plasticity Describing the Bauschinger Effect and Work Hardening Stagnation", International Journal of Plasticity 18, 661-686 (2002).

Yoshida, F. and Uemori, T., "A Model of Large-Strain Cyclic Plasticity and its Application to Springback Simulation", *International Journal of Mechanical Sciences*, Vol. 45, 1687-1702, (2003).

Zajac F.E., "Muscle and tendon: Properties, models, scaling, and application to biomechanics and motor control", *CRC Critical Reviews in Biomedical Engineering* 17(4):359-411, (1989).

REFERENCES

Zayas, V.A., Low, S.S. and Mahin, S.A., "A Simple Pendulum Technique for Achieving Seismic Isolation", *J. Earthquake Spectra*, Vol. 6, No. 2, pp. 317-334 (1990).

Zhang, S., Approximate Stress Intensity Factors and Notch Stresses for Common Spot-Welded Specimens, Welding Research Supplement, pp. 173s-179s, (1999).

Zhang, S., McCormick, P.G., Estrin, Y., "The morphology of Portevin-Le Chatelier bands: Finite element simulation for Al-Mg-Si", *Acta Materialia* 49, 1087-1094, (2001).

Zhu, H., Zhu, X., "A Mixed-Mode Fracture Criterion for AHSS Cracking Prediction at Large Strains", SAE Technical paper 2011-01-0007, (2011).

Zhu, X.H., Fan, H.F., Zhang, L., and Xiao Y.Z., Improvement of Sandwich Structure Part Adaptivity in LS-DYNA, 2017 3rd China LS-DYNA Users' Conference, Shanghai, China.