

References

- Abramowitz, M., and Stegun, I.A. (1965): *Handbook of mathematical functions*. Dover, New York, 1965.
- Badalamenti, J.M., and Doyle, G.R. (1988): Radial-interradial spring tire models. *J. of Vibration, Acoustic, Stress and Reliability in Design*, 110, 1, 1988.
- Bakker, E., Nyborg, L., and Pacejka, H.B. (1987): Tire Modeling for Use in Vehicle Dynamics Studies. *SAE Paper* No. 870421, 1987.
- Bakker, E., Pacejka, H.B., and Lidner, L. (1989): A New Tire Model with an Application in Vehicle Dynamics Studies. *SAE Paper* No. 890087, 1989.
- Bandel, P., and Monguzzi, C. (1988): Simulation model of the dynamic behavior of a tire running over an obstacle. *Tire Science and Technology*, TSTCA, 16, 2, 1988.
- Bandel, P., and Bernardo, C. di (1989): A Test for Measuring Transient Characteristics of Tires. *Tire Science and Technology*, 17, 2, 1989.
- Bayer, B. (1988): Flattern und Pendeln bei Krafträdern. *Automobil Industrie*, 2, 1988.
- Bayle, P., Forissier, J.F., and Lafon, S. (1993): A New Tyre Model for Vehicle Dynamics Simulation. *Automotive Technology International*, 1993.
- Becker, G., Fromm, H., and Maruhn, H. (1931): *Schwingungen in Automobil-lenkungen* ('Shimmy'). Berlin, 1931.
- Bergman, W. (1965): Theoretical prediction of the effect of traction on cornering force. *SAE Transactions*, 614, 1965.
- Bernard, J.E., Segel, L., and Wild, R.E. (1977): Tire shear force generation during combined steering and braking manoeuvres. *SAE Paper* 770852, 1977.
- Berritta, R., Biral, F., and Garbin, S. (2000): Evaluation of motorcycle handling and multibody modelling and simulation. In: *Proceedings of 6th Int. Conference on High Tech. Engines and Cars*, Modena, 2000.
- Berzeri, M., and Maurice, J.P. (1996): A mathematical model for studying the out-of-plane behaviour of a pneumatic tyre under several kinematic conditions. FISITA Youth Congress, Prague, June 1996.
- Besselink, I.J.M. (2000): *Shimmy of Aircraft Main Landing Gears*. Dissertation, TU Delft, 2000.
- Biral, F., and Da Lio, M. (2001): Modelling drivers with the optimal manoeuvre method. In: *Proceedings of ATA 2001, The Role of Experiments in the Automotive Product Development Process*, Florence, 2001.
- Böhm, F. (1963): Der Rollvorgang des Automobil-Rades. *ZAMM* 43, T56-T60, 1963.
- Borgmann, W. (1963): *Theoretische und experimentelle Untersuchungen an Luftreifen bei Schräglauf*. Dissertation, Braunschweig, 1963.

- Breuer, T., and Pruckner, A. (1998): Advanced dynamic motorbike analysis and driver simulation. In: *13th European ADAMS Users' Conference*, Paris, 1998.
- Brockman, R.A., and Braisted, W.R. (1994): Critical Speed Estimation of Aircraft Tires. *Tire Science and Technology*, 22, 2, 1994.
- Bröder, K., Haardt, H., and Paul, U. (1973): Reifenprüfstand mit innerer und äusserer Fahrbahn. *ATZ*, Vol. 75 (1973), No. 2.
- Bruni, S., Cheli, F., and Resta, F. (1996): On the identification in time domain of the parameters of a tyre model for the study of in-plane dynamics. In: *Proceedings of 2nd Colloquium on Tyre Models for Vehicle Analysis*, eds. F.Böhm and H.P.Willumeit, Berlin 1997, Suppl. *Vehicle System Dynamics*, 27, 1996.
- CCG (2004): Tyre Models for Vehicle Dynamics Simulation. *Seminar TV 4.08 Lecture notes*, Coord. P.Lugner, Vienna, Sept. 1-2, 2004, Carl Cranz Gesellschaft, 82234 Oberpfaffenhofen, Germany.
- Chiesa, A., and Rinonapoli, L. (1967): Vehicle Stability Studied with a Nonlinear Seven Degree of Freedom Model. *SAE Paper* 670476, 1967.
- Clark, S.K. (1982): A brief history of tire rolling resistance. In: *Proceedings of the Rubber Division Symposia*, 1, Chicago, 1982.
- Cossalter, V., Da Lio, M., Lot, R., and Fabbri, L. (1999): A General Method for the Evaluation of Vehicle Manoeuvrability with Special Emphasis on Motorcycles. *Vehicle System Dynamics*, 31, 1999.
- Davis, D.C. (1974): A radial-spring terrain-enveloping tire model. *Vehicle System Dynamics*, 3, 1974.
- Dijks, A. (1974): A Multifactor Examination of Wet Skid Resistance of Car Tires. *SAE Paper* 741106, 1974.
- Dugoff, H., Fancher, P.S., and Segel, L. (1970): An analysis of tire traction properties and their influence on vehicle dynamics performance. In: *Proceedings FISITA Int. Auto. Safety Conference*, *SAE Paper* 700377, 1970.
- Eldik Thieme, H.C.A. van (1960): Experimental and Theoretical Research on Mass-Spring Systems. In: *Proceedings of FISITA Congress*, The Hague 1960, The Netherlands.
- Fiala, E. (1954): Seitenkräfte am rollenden Luftreifen. *VDI Zeitschrift*, 96, 1954.
- Frank, F. (1965a): Grundlagen zur Berechnung der Seitenführungskennlinien von Reifen. *Kautchuk und Gummi*, 18, 8, 1965.
- Frank, F. (1965b): *Theorie des Reifenschräglaufs*. Dissertation, Braunschweig, 1965.
- Freudenstein, G. (1961): Luftreifen bei Schräg- und Kurvenlauf. *Deutsche Kraftfahrzeugforschung und Str. Verk. techn.*, 152, 1961.
- Fritz, W. (1977): *Federhärte von Reifen und Frequenzgang der Reifenkräfte bei*

- periodischer Vertikalbewegung der Felge*. Dissertation, Karlsruhe, 1977.
- Fromm, H. (1941): *Kurzer Bericht über die geschichte der Theorie des Radflatterns*. Bericht 140 der Lilienthal Gesellschaft, 1941; NACA TM 1365, 1954.
- Gillespie, T.D. (1992): *Fundamentals of Vehicle Dynamics*. SAE, 1992.
- Gipser, M. (1987): DNS-Tire, a Dynamical Nonlinear Spatial Tire Model in Vehicle Dynamics. In: *Proceedings of the 2nd Workshop on Road Vehicle Systems and Related Mathematics*, ed. Neunzert, ISI Torino, 1987, Teubner Stuttgart, 1989.
- Gipser, M., Hofer, R., and Lugner, P. (1997): Dynamical Tire Forces Response to Road Unevennesses. In: *Proceedings of 2nd Colloquium on Tyre Models for Vehicle Analysis*, eds. F.Böhm and H.P.Willumeit, Berlin 1997, Suppl. Vehicle System Dynamics, 27, 1996.
- Gipser, M. (1999): Ftire, a New Fast Tire Model for Ride Comfort Simulations. *International ADAMS User Conference*, Berlin, 1999.
- Goncharenko, V.I., Lobas, L.S., and Nikitina, N.V. (1981): Wobble in guide wheels. *Soviet Applied Mechanics*, 17, 8, 1981.
- Gong, S. (1993): *A Study of In-Plane Dynamics of Tires*. Dissertation, TU Delft, 1993.
- Gong, S., Savkoor, A.R., and Pacejka, H.B. (1993): The influence of boundary conditions on the vibration transmission properties of tires. *SAE Paper* 931280, 1993.
- Gough, V.E. (1963): Tyres and air suspension. *Advances in Automobile Engineering*, ed. G.H. Tidbury, Pergamon Press, Oxford, 1963.
- Guan, D.H., Shang, J., and Yam, L.H. (1999): Modelling of Tire Cornering Properties with Experimental Modal Parameters. *SAE* 1999-01-0784.
- Guntur, R.R. (1975): *Adaptive brake control systems*. Dissertation, TU Delft, 1975.
- Guo, K.H. (1994): The Effect of Longitudinal Force and Vertical Load Distribution on Tire Slip Properties. *SAE Paper* 945087, 1994.
- Guo, K.H., and Liu, Q. (1997): Modelling and Simulation of Non-Steady State Cornering Properties and Identification of Structure Parameters of Tyres. In: *Proceedings of 2nd Colloquium on Tyre Models for Vehicle Analysis*, Berlin 1997, eds. F.Böhm and H.P.Willumeit, Suppl. Vehicle System Dynamics, 27, 1996.
- Hadekel, R. (1952): The mechanical characteristics of pneumatic tyres. *S & T Memo* 10/52, British Ministry of Supply, TPA 3/TIB, 1952.
- Hartog, J.P. den (1940): *Mechanical Vibrations*, New York, 1940.
- Hasegawa, A. (1985): Analysis of controllability and stability of motorcycles - Analysis of stability of high speed driving. In: *Proceedings of 10th Int. Tech. Conf. on Experimental Safety Vehicles*, 1985.
- Henker, E. (1968): Dynamische Kennlinien von PKW Reifen. *Wissenschaftlich-Technische Veröffentlichungen aus dem Automobilbau* (IFA-DDR) Heft 3, 1968.

- Higuchi, A., and Pacejka, H.B. (1997): The Relaxation Length Concept at Large Wheel Slip and Camber. In: *Proceedings of 2nd Colloquium on Tyre Models for Vehicle Analysis*, Berlin 1997, eds. F.Böhm and H.P. Willumeit, Suppl. Vehicle System Dynamics, 27, 1996.
- Higuchi, A. (1997): *Transient response of tyres at large wheel slip and camber*. Dissertation, TU Delft, 1997.
- Ho, F.H., and Hall, M.F. (1973): An experimental study of the pure-yaw frequency response of the 18x5.5 type VII aircraft tires. *AFFDL-TR-73-79*, 1973.
- Iffelsberger, L. (1991): Application of vehicle dynamic simulation in motorcycle development. *Safety Environment Future*, Forschungshefte Zweiradsicherheit, 7, 1991.
- Jagt, P. van der, Pacejka, H.B., and Savkoor, A.R. (1989): Influence of tyre and suspension dynamics on the braking performance of an anti-lock system on uneven roads. In: *Proceedings of EAEC Conference*, Strassbourg, C382/047 IMechE 1989.
- Jagt, P. van der (2000): *The Road to Virtual Vehicle Prototyping*. Dissertation. TU Eindhoven, 2000.
- Jenkinson, D. (1958): *The Racing Driver*. Batsford Ltd., London, 1958.
- Jianmin, G., Gall, R., and Zuomin, W. (2001): Dynamic Damping and Stiffness Characteristics of the Rolling Tire. *Tire Science and Technology*, 29, 4, 2001.
- Katayama, T., Aoki, A., and Nishimi, T. (1988): Control behaviour of motorcycle riders. *Vehicle System Dynamics*, 17, 1988.
- Katayama, T., Nishimi, T., Okoyama, T., and Aoki, A. (1997): A simulation model for motorcycle rider's behaviours. In: *Proceedings of SETC'97*, Yokohama, SAE of Japan, 1997.
- Keldysh, M.V. (1945): *Shimmy of the front wheel of a three-wheeled landing gear*. Tr. Tsentr. Aerogidrodinamicheskogo Inst., 564, 1945.
- Klotter, K. (1960): *Technische Schwingungslehre II*. Berlin, 1960.
- Kluiters, M.A.M. (1969): *An investigation into F-28 main gear vibrations*. Fokker Report X-28-430, 1969.
- Kobiki, Y., Kinoshita, A., and Yamada, H. (1990): Analysis of interior booming noise caused by tire and power train-suspension system vibration. *Int. J. of Vehicle Design*, 11, 3, 1990.
- Koenen, C., and Pacejka, H.B. (1980): Vibrational Modes of Motorcycles in Curves. In: *Proceedings of the Int. Motorcycle Safety Conference*, Wash. D.C., Motorcycle Safety Foundation, Vol.II, 1980.
- Koenen, C. (1983): *The dynamic behaviour of a motorcycle when running straight ahead and when cornering*. Dissertation, TU Delft, 1983.
- Koiter, W.T., and Pacejka, H.B. (1969): On the skidding of vehicles due to locked wheels. In: *Proceedings of the Symposium on Handling of Vehicles under Emergency*

Conditions, Inst. of Mech. Engrs. 1968-69, 183 Pt 3H, 19, 1969.

Kortüm, W., and Lugner, P. (1994): *Systemdynamik und Regelung von Fahrzeugen*. Springer Verlag, Berlin, 1994.

Krempel, G. (1967): Untersuchungen an Kraftfahrzeugreifen. *ATZ*, Vol. 69, Nos. 1, 8, 1967. (Cf. also dissertation Karlsruhe University, 1965)

Krylov, N., and Bogoljubov, N. (1947): *Introduction to Non-Linear Mechanics*. Princeton, 1947.

Laerman, F.J. (1986): Seitenführungsverhalten von Kraftfahrzeugreifen bei schnellen Radlaständerungen. Dissertation, Braunschweig, *VDI-Fortschritt Berichte*, 12, 73, 1986.

Lee, Jung-Hwan (2000): Analysis of Tire Effect on the Simulation of Vehicle Straight Line Motion. *Vehicle System Dynamics*, 33, 2000.

Leipholtz, H. (1987): *Stability theory, an introduction to the stability of dynamic systems and rigid bodies*. John Wiley & Sons, B.G.Teubner, Stuttgart, 1987.

Lippmann, S.A., Piccin, W.A., and Baker, T.P. (1965,1967): Enveloping characteristics of truck tires - a laboratory evaluation. *SAE Paper* 650184, 1965.

Lippmann, S.A., and Nanny, J.D. (1967): A quantitative analysis of the enveloping forces of passenger car tires. *SAE Paper* 670174, 1967.

Lugner, P., Pacejka, H.B., and Plöchl, M. (2005): Recent Advances in Tyre Models and Testing Procedures. State of the Art paper of 19th IAVSD Symposium on the Dynamics of Vehicles on Roads and Tracks, Milano 2005, *Veh. System Dynamics*, 43.

Magnus, K. (1955): Ueber die Verfahren zur Untersuchung nicht-linearer Schwingungs- und Regelungs-Systeme. *VDI-Forschungsheft* 451 B, 21, 1955.

Mastinu, G. (1997): A Semi-Analytical Tyre Model for Steady and Transient State Simulations. In: *Proceedings of 2nd Colloquium on Tyre Models for Vehicle Analysis*, Berlin 1997, eds. F.Böhm and H.P.Willumeit, Suppl. *Vehicle System Dynamics*, 27, 1996.

Maurice, J.P., Berzeri, M., and Pacejka, H.B. (1999): Pragmatic Tyre Model for Short Wavelength Side Slip Variations. *Vehicle System Dynamics*, 31, 2, 1999.

Maurice, J.P. (2000): *Short wavelength and dynamic tyre behaviour under lateral and combined slip conditions*. Dissertation, TU Delft, 2000.

Metcalf, W.H. (1963): Effect of a Time-Varying load on Side Force Generated by a Tire Operating at Constant Slip Angle. *SAE Paper* 713c, 1963.

Milliken, W.F. et al. (1956): *Research in Automobile Stability and Control and Tire Performance*. The Inst. of Mech. Engrs, London, 1956.

Milliken, W.F., and Milliken, D.L. (1995): *Race Car Vehicle Dynamics*. SAE 1995.

Mitschke, M. (1982): *Dynamik der Kraftfahrzeuge*, Band A, Antrieb und Bremsung.

Springer Verlag, Berlin, 1982.

Mitschke, M. (1990): *Dynamik der Kraftfahrzeuge*, Band C, *Fahrverhalten*. Springer Verlag, Berlin, 1990.

Moreland, W.J. (1954): The story of shimmy. *J. of the Aeronautical Sciences*, December 1954.

Mousseau, C.W., and Clark, S.K. (1994): An analytical and experimental study of a tire rolling over a stepped obstacle at low velocity. *Tire Science and Technology*, TSTCA, 16, 2, 1994.

Nishimi, T., Aoki, A., and Katayama, T. (1985): Analysis of straight-running stability of motorcycles. In: *Proceedings of 10th Int. Tech. Conf. on Experimental Safety Vehicles*, 1985.

Nordeen, D.L., and Cortese, A.D. (1963): Force and moment characteristics of rolling tires. *SAE Paper 713A*, 1963; *SAE Transactions* 325, 1964.

Oertel, Ch. (1997): On modelling contact and friction - calculation of tyre response on uneven roads. In: *Proceedings of 2nd Colloquium on Tyre Models for Vehicle Analysis*, eds. F.Böhm and H.P.Willumeit, Berlin 1997, Suppl. Vehicle System Dynamics, 27, 1996.

Oertel, Ch., and Fandre, A. (1999): Ride Comfort Simulations and Steps Towards Life Time Calculations: RMOD-K and ADAMS. *International ADAMS User Conference*, Berlin, 1999.

Olley, M. (1947): Road manners of the modern car. *J. Inst. Auto. Engrs.*, 15, 1947.

Oosten, J.J.M. van, and Bakker, E. (1993): Determination of Magic Tyre Model Parameters. In: *Proceedings of 1st Colloquium on Tyre Models for Vehicle Analysis*, ed. H.B. Pacejka, Delft 1991, Suppl. Vehicle System Dynamics, 21, 1993.

Oosten, J.J.M. van, Unrau, J.H., Riedel, G., and Bakker, E. (1996): TYDEX Workshop: Standardisation of Data Exchange in Tyre Testing and Tyre Modelling. In: *Proceedings of 2nd Colloquium on Tyre Models for Vehicle Analysis*, eds. F.Böhm and H.P.Willumeit, Berlin 1997, Suppl. Vehicle System Dynamics, 27, 1996.

Pacejka, H.B. (1958): *Study of the lateral behaviour of an automobile moving upon a flat level road*. Cornell Aeronautical Laboratory Report YC-857-F-23, 1958.

Pacejka, H.B. (1965): Analysis of the wheel shimmy phenomenon. In: *Proceedings of the Auto. Division of I.Mech.E.*, 180, Part 2A, Inst. of Mech. Engrs., 1965-66.

Pacejka, H.B. (1966): *The wheel shimmy phenomenon*. Dissertation, TU Delft, 1966.

Pacejka, H.B. (1971): The Tyre as a Vehicle Component. Chapter 7 of: *Mechanics of Pneumatic Tires*, ed. S.K. Clark, N.B.S. Monograph 122, Washington D.C., 1971 (new edition 1981).

Pacejka, H.B. (1972): Analysis of the Dynamic Response of a String-Type Tire Model to Lateral Wheel-Plane Vibrations. *Vehicle System Dynamics*, 1, 1, 1972.

- Pacejka, H.B., and Fancher, P.S. (1972a): Hybrid simulation of shear force development of a tire experiencing longitudinal and lateral slip. In: *Proceedings of XIV FISITA Int. Auto. Tech. Congress*, London, 1972.
- Pacejka, H.B. (1973a): Approximate dynamic shimmy response of pneumatic tyres. *Vehicle System Dynamics*, 2, 1973.
- Pacejka, H.B. (1973b): Simplified analysis of steady-state turning behaviour of motor vehicles. *Vehicle System Dynamics*, 2, p.161,173,185; 1973.
- Pacejka, H.B. (1974): Some recent investigations into dynamics and frictional behavior of pneumatic tires. In: *Proceedings of G.M. Symposium Physics of Tire Traction*, eds. D.F. Hays and A.L. Browne, Plenum Press, New York, 1974.
- Pacejka, H.B., Van der Berg, J., and Jillesma, P.J. (1977): Front Wheel Vibrations. In: *Proceedings of 5th VSD-2nd IUTAM Symposium*, eds. A. Slibar and H. Springer, Vienna 1977, Swets and Zeitlinger, Lisse, 1978.
- Pacejka, H.B. (1981): Analysis of Tire Properties. Chapter 9, *Mechanics of Pneumatic Tires*, ed. S.K. Clark, DOT HS-805 952, 1981.
- Pacejka, H.B. (1981a): In-Plane and Out-of-Plane Dynamics of Pneumatic Tyres. *Vehicle System Dynamics*, 10, 1981.
- Pacejka, H.B. (1986): Non-Linearities in Road Vehicle Dynamics. *Vehicle System Dynamics*, 15, 5, 1986.
- Pacejka, H.B., and Sharp, R.S. (1991): Shear Force Development by Pneumatic Tyres in Steady State Conditions: A Review of Modelling Aspects. *Vehicle System Dynamics*, 20, 1991.
- Pacejka, H.B., and Takahashi, T. (1992): Pure Slip Characteristics of Tyres on Flat and on Undulated Road Surfaces. In: *Proceedings of AVEC'92*, Yokohama, SAE of Japan, 1992.
- Pacejka, H.B., and Bakker, E. (1993): The Magic Formula tyre model. In: *Proceedings of 1st Colloquium on Tyre Models for Vehicle Analysis*, Delft 1991, ed. H.B. Pacejka, Suppl. *Vehicle System Dynamics*, 21, 1993.
- Pacejka, H.B. (1996): The Tyre as a Vehicle Component. In: *Proceedings of XXVI FISITA Congress*, ed. M. Apetaur, Prague, 1996.
- Pacejka, H.B., and Besselink, I.J.M. (1997): Magic Formula Tyre Model with Transient Properties. In: *Proceedings of 2nd Colloquium on Tyre Models for Vehicle Analysis*, eds. F.Böhm and H.P.Willumeit, Berlin 1997, Suppl. *Vehicle System Dynamics*, 27, 1996.
- Pacejka, H.B. (2004): Spin: Camber and Turning. In: *Proceedings of 3^d Colloquium on Tyre Models for Vehicle Analysis*, ed. P. Lugner, Vienna 2004, Suppl. *Vehicle System Dynamics*, 2005.
- Pevsner, Ja. M. (1947): *Theory of the stability of automobile motions*. (In Russian).

Masjgiz, Leningrad, 1947.

Radt, H.S., and Pacejka, H.B. (1963): Analysis of the Steady-State Turning Behavior of an Automobile. In: *Proceedings of the Symposium on Control of Vehicles*, Inst. of Mech. Engrs., London, 1963.

Radt, H.S., and Milliken, W.F. (1983): Non-dimensionalizing Tyre Data for Vehicle Simulation. *Road Vehicle Handling*, Inst. of Mech. Engrs. (C133/83), 1983.

Reimpell, J., and Sponagel, P. (1986): *Fahrwerktechnik: Reifen und Räder*. Vogel Buchverlag, Würzburg, 1986.

Riekert, P., and Schunck, T.E. (1940): Zur Fahrmechanik des Gummi-bereiften Kraftfahrzeugs. *Ingenieur Archiv*, 11, 210, 1940.

Rocard, Y. (1949): *Dynamique général des vibrations*. Paris, 1949.

Rogers, L.C., and Brewer, H.K. (1971): Synthesis of tire equations for use in shimmy and other dynamic studies. *J. of Aircraft*, 8, 9, 1971.

Rogers, L.C. (1972): Theoretical tire equations for shimmy and other dynamic studies. *AIAA J. of Aircraft*, 1972.

Ruijs, P.A.J., and Pacejka, H.B. (1985): Research in Lateral Dynamics of Motorcycles. In: *Proceedings of 9th IAVSD Symposium on the Dynamics of Vehicles on Roads and Tracks*, ed. O. Nordström, Linköping 1985, Suppl. Vehicle System Dynamics, 15, 1986.

SAE J670e 1976: *Vehicle Dynamics Terminology*. SAE J670e, Society of Automotive Engineers, Inc., Warrendale, PA, July 1976.

Saito, Y. (1962): A study of the dynamic steering properties of tyres. In: *Proceedings IX FISITA Congress*, London, 1962.

Sakai, H. (1981): Theoretical and experimental studies on the dynamic cornering properties of tyres. *Int. J. of Vehicle Design*, 2(1-4), 1981.

Sakai, H. (1989): Study on Cornering Properties for Tire and Vehicle. *The 8th Annual Meeting of the Tire Society*, Akron, 1989.

Sakai, H. (1990): Study on Cornering Properties of Tire and Vehicle. *Tire Science and Technology*, TCTCA, 18(3), 1990.

Savkoor, A.R. (1970): The lateral flexibility of a pneumatic tyre and its application to the lateral contact problem. In: *Proceedings FISITA Int. Auto. Safety Conference*, SAE Paper 700378, 1970.

Schlippe, B. von, and Dietrich, R. (1941): *Das Flattern eines bepneuten Rades*. Bericht 140 der Lilienthal Gesellschaft, 1941: NACA TM 1365, 1954.

Schlippe, B. von, and Dietrich, R. (1942): *Zur Mechanik des Luftreifens*. Zentrale für wissenschaftliches Berichtwesen, Berlin-Adlershof, 1942.

Schlippe, B. von, and Dietrich, R. (1943): *Das Flattern eines mit Luftreifen*

- versehenen Rades. In: *Jahrbuch der deutsche Luftfahrtforschung*, 1943.
- Schmeitz, A.J.C., and Pauwelussen, J.P. (2001): An Efficient Dynamic Ride and Handling Tyre Model for Arbitrary Road Unevennesses. *VDI-Berichte*, 1632, 2001.
- Schmeitz, A.J.C., and Pacejka, H.B. (2003): A Semi-Empirical Three-Dimensional Tyre Model for Rolling over Arbitrary Road Unevennesses. In: *Proceedings of the 18th IAVSD Symposium on the Dynamics of Vehicles on Roads and Tracks*, Kanagawa, 2003, Japan, ed. M.Abe, Swets and Zeitlinger, Suppl. of Vehicle System Dynamics.
- Schmeitz, A.J.C. (2004): *A Semi-Empirical Three-Dimensional Model of the Pneumatic Tyre Rolling over Arbitrarily Uneven Road Surfaces*. Dissertation, TU Delft, 2004.
- Segel, L. (1956): Theoretical Prediction and Experimental Substantiation of the Response of the Automobile to Steering Control. In: *Proceedings of Auto. Division of I.Mech.E.*, 7, 1956-57.
- Segel, L. (1966): Force and moment response of pneumatic tires to lateral motion inputs. *Transactions ASME, J. of Engineering for Industry*, 88B, 1966.
- Segel, L., and Wilson, R. (1976): Requirements on describing the mechanics of tires used on single-track vehicles. In: *Proceedings of IUTAM Symposium on the Dynamics of Vehicles*, TU Delft 1975, ed. H.B. Pacejka, Swets and Zeitlinger, Lisse, 1976.
- Segel, L., and Ervin, R.D. (1981): The Influence of Tire Factors on the Stability of Trucks and Tractor Trailers. *Vehicle System Dynamics*, 10, 1, 1981.
- Sekula, P.J., et al. (1976): Dynamic indoor tyre testing and Fourier transform analysis. *Tire Science and Technology*, 4, 2, 1976.
- Shang, J., Guan, D., and Yam, L.H. (2002): Study on Tyre Dynamic Cornering Properties Using Experimental Modal Parameters. *Vehicle System Dynamics*, 37, 2, 2002.
- Sharp, R.S. (1971): The Stability and Control of Motorcycles. *J. of Mech. Engng. Sci.*, 13, 5, I.Mech.E., 1971.
- Sharp, R.S. (1978): A Review of Motorcycle Steering Behaviour and Straight Line Stability Characteristics. *SAE Paper* 780303, 1978.
- Sharp, R.S., and Jones, C.J. (1980): A comparison of tyre representations in a simple wheel shimmy problem. *Vehicle System Dynamics*, 9, 1, 1980.
- Sharp, R.S., and Alstead, C.J. (1980a): The Influence of Structural Flexibilities on the Straight-Running Stability of Motorcycles. *Vehicle System Dynamics*, 9, 1980.
- Sharp, R.S. (1985): The lateral dynamics of motorcycles and bicycles. *Vehicle System Dynamics*, 14, 4-6, 1985.
- Sharp, R.S., and El-Nashar, M.A. (1986): A generally applicable digital computer based mathematical model for the generation of shear forces by pneumatic tyres. *Vehicle System Dynamics*, 15, 1986.

- Sharp, R.S. (2001): Stability, Control and Steering Responses of Motorcycles. *Vehicle System Dynamics*, 35, 4-5, 2001.
- Sharp, R.S., and Limebeer, D.J.N. (2001a): A motorcycle model for stability and control analysis. *Multibody System Dynamics*, 6, 2, 2001.
- Smiley, R.F. (1957): *Correlation and extension of linearized theories for tire motion and wheel shimmy*. NACA Report 1299, 1957.
- Smiley, R.F. (1958): *Correlation, evaluation and extension of linearized theories for tire motion and wheel shimmy*. NACA (NASA) Tech. Note 4110, 1958.
- Sperling, E. (1977): *Zur Kinematik und Kinetik elastischer Räder aus der Sicht verschiedener Theorien*. Dissertation, TU Munich, 1977.
- Spierings, P.T.J. (1981): The Effects of Lateral Front Fork Flexibility on the Vibrational Modes of Straight Running Single Track Vehicles. *Vehicle System Dynamics*, 10, 1980.
- Stapan, G. (1997): Delay, Nonlinear Oscillations and Shimmying Wheels. In: *Proceedings of Symposium CHAOS'97*, Ithaca, N.Y., Kluwer Ac. Publ., Dordrecht, 1998.
- Stoker, J.J. (1950): *Non-Linear Vibrations*. New York, 1958.
- Strackerjan, B. (1976): Die Querdynamik von Kraftfahrzeugreifen. In: *Proceedings of VDI-Schwingungstagung*, 1976.
- Takahashi, T., Yamada, T., and Nakamura, T. (1984): Experimental and theoretical study of the influence of tires on straight-running motorcycle weave response. *SAE Paper* 840248, 1984.
- Takahashi, T., and Pacejka, H.B. (1987): Cornering on uneven roads. In: *Proceedings of 10th IAVSD Symposium on the Dynamics of Vehicles on Roads and Tracks*, ed. M. Apetaur, Prague 1987, Suppl. *Vehicle System Dynamics*, 17, 1988.
- Takahashi, T., and Hoshino, M. (1996): The Tyre Cornering Model on Uneven Roads for Vehicle Dynamics Studies. In: *Proceedings of AVEC'96, Int. Symp. on Advanced Vehicle Control.*, ed. H.Wallentowitz, Aachen, 1996.
- Tanguy, G. (1986): Antiskid Systems and Vehicle Suspension. *SAE Paper* 865134, 1986.
- Troger, H., and Zeman, K. (1984): A non-linear analysis of the generic types of loss of stability of the steady-state motion of a tractor-semi-trailer. *Vehicle System Dynamics*, 13, 1984.
- Vågstedt, N.G. (1995): *On the Cornering Characteristics of Ground Vehicle Axles*. Dissertation, KTH Stockholm, 1995.
- Valk, R. van der, and Pacejka, H.B. (1993): An analysis of a civil aircraft main landing gear shimmy failure. *Vehicle System Dynamics*, 22, 1993.
- Vries, E.J.H. de, and Pacejka, H.B. (1998a): Motorcycle tyre measurements and

models. In: *Proceedings of 15th IAVSD Symposium on the Dynamics of Vehicles on Roads and Tracks*, ed. L.Palkovics, Budapest 1997, Suppl. Vehicle System Dynamics 28, 1998.

Vries, E.J.H. de, and Pacejka, H.B. (1998b): The effect of tire modelling on the stability analysis of a motorcycle. In: *Proceedings AVEC'98*, Nagoya, SAE of Japan, 1998.

Weir, D.H. (1972): *Motorcycle handling dynamics and rider control and the effect of design configuration on response and performance*. Dissertation, UCLA, 1972.

Whipple, F.J.W. (1899): The Stability of the Motion of a Bicycle. *Quart. J. of Pure and Applied Mathematics*, 30, 1899.

Whitcomb, D.W., and Milliken, W.F. (1956): Design Implications of a General Theory of Automobile Stability and Control. In: *Proceedings of Auto. Division of I.Mech.E.*, 7, 1956-57.

Willumeit, H.P. (1969): *Theoretisch Untersuchungen an einem Modell des Luftreifens*. Dissertation, Berlin, 1969.

Winkler, C.B. (1998): Simplified Analysis of the Steady-State Turning of Complex Vehicles. *Vehicle System Dynamics*, 29, 3, 1998.

Wisselman, D., Iffelsberger, D., and Brandlhuber, B. (1993): Einsatz eines Fahrdynamik-Simulationsmodells in der Motorradentwicklung bei BMW. *ATZ*, 95, 2, 1993.

Zegelaar, P.W.A., Gong, S., and Pacejka, H.B. (1993): Tyre Models for the Study of In-Plane Dynamics. In: *Proceedings of 13th IAVSD Symposium on the Dynamics of Vehicles on Roads and Tracks*, ed. Z. Shen, Chengdu 1993, Suppl. Vehicle System Dynamics, 23, 1994.

Zegelaar, P.W.A., and Pacejka, H.B. (1995): The In-Plane Dynamics of Tyres on Uneven Roads. In: *Proceedings of 14th IAVSD Symposium on the Dynamics of Vehicles on Roads and Tracks*, ed. L. Segel, Ann Arbor 1995, Suppl. Vehicle System Dynamics, 25, 1996.

Zegelaar, P.W.A., and Pacejka, H.B. (1997): Dynamic Tyre Responses to Brake Torque Variations. In: *Proceedings of 2nd Colloquium on Tyre Models for Vehicle Analysis*, eds. F.Böhm and H.P.Willumeit, Berlin 1997, Suppl. Vehicle System Dynamics, 27, 1996.

Zegelaar, P.W.A. (1998): *The dynamic response of tyres to brake torque variations and road unevennesses*. Dissertation, TU Delft, 1998.