

References

- Agee, Vu and Volk (1999)** J. Agee, H. Yu and J. Volk, "Installation and Testing of a Prototype Digital Governor at Mt. Elbert Powerplant", *IEEE Power Engineering Society 1999 Winter Meeting*, Vol., pp. 102-107, February 1999.
- Arnautovic and Skataric (1991)** D. Arnautovic, D. Skataric, "Suboptimal Design Hydroturbine Governors", *IEEE Trans. on Energy Conversion*, Vol. 6, No. 3, pp. 438-444, September 1991.
- Battle (1998)** C. Battle, "Design of a Controller for a Model of a Hydraulic Plant", *Proyecto CICYT TAP97-0969-C03-01, Internal Report*, February 1998.
- Boireau (1994)** C. Boireau, "Standard or Customised Configurable Governors". *International Water Power & Dam Construction*, N° 7, pp. 22-24.
- Bonnett and Wozniak (1995)** S. Bonnett, L. Wozniak, "Adaptive Speed Control of Hydrogenerators by Recursive Least Squares Identification Algorithm", *IEEE Trans. on Energy Conversion*, Vol. 10, No. 1, pp. 162-168, March 1995.
- De Jaeger et al. (1994)** E. De Jaeger, N. Janssens, B. Malfliet, F. Van De Meulebroeke, "Hydro Turbine Model for System Dynamic Studies", *IEEE Trans. on Power Systems*, Vol.9, No.4, pp. 1709-1715, November 1994.
- Gaden (1945)** D. Gaden, "Considerations sur le Problème de la Stabilité", *Editions la Concorde*, Paris, 1945.

- Hannet et al (1994)** L. Hannett, B. Fardanesh, J. Feltes, “Field Tests to Validate Hydro Turbine-Governor Model Structure and Parameters”, *IEEE Transactions on Power Systems*, Vol. 9, No. 4, pp. 1744-1751, November 1994.
- Hannet et al (1998)** L. Hannett, B. Lam, F. Prabhakara, Q. Guofu, D. Mincheng and B. Beilei, “Modeling of Pumped Storage Hydro Plant for Power System Stability Studies”, *International Conference on Power System Technology, 1998 Proceedings. POWERCON '98*, Vol. 2, pp. 1300-1304, August 1998.
- IEEE Committee Report (1973)** IEEE Committee Report, “Dynamic Models for Steam and Hydro Turbines in Power System Studies”, *IEEE Trans. on Power Apparatus and Systems*, Vol. PAS-92, pp. 1904-1915, November/December 1973.
- IEEE Standards (1988)** An American National Standard. IEEE. Guide for Control of Hydroelectric Power Plants. *Power Generation Committee of the IEEE Power Engineering Society*.
- IEEE Standards (1997)** IEEE Guide for Computer-based Control for Hydroelectric Power Plant Automation. *Generation Committee of the IEEE Power Engineering Society*.
- IEEE Working Group (1992)** Working Group on Prime Mover and Energy Supply Models for System Dynamic Performance Studies, “Hydraulic Turbine and Turbine Control Models for System Dynamic Studies”, *IEEE Trans. on Power Systems*, Vol.7, No.1, pp. 167-179, February 1992.
- Ilyinykh (1985)** I. Ilyinykh, “Hydroelectric Stations”, *MIR Publishers*, Moscow, 1985.
- Isidori (1995)** A. Isidori, “Nonlinear Control Systems: An Introduction”, *Spinger-Verlig 3rd edition*, Berlin, 1995.
- Jing et al. (1998)** L. Jing, L. Ye, O. Malik, Y. Zeng, “An Intelligent Discontinuous Control Strategy for Hydroelectric Generating Unit”, *IEEE Transactions on Energy Conversion*, Vol.13, No.1, pp. 84-89, March 1998.
- Kundur (1994)** P. Kundur, “Power System Stability and Control” *Mc Graw-Hill*, New York, 1994.
- Lansberry and Wozniak (1994)** J. Lansberry, L. Wozniak, “Adaptive Hydrogenerator Governor Tuning with a Genetic Algorithm”, *IEEE Trans. on Energy Conversion*, Vol. 9, No.1, pp. 179-183, March 1994.
- Li and Malik (1997)** Z. Li, O. Malik, “An Orthogonal Test Approach Based on Control Parameter Optimization and Its Applications to a Hydro-Turbine Governor”, *IEEE Transactions on Energy Conversion*, Vol.12, No.4, pp. 388-393, December 1997.

- Luqing et al. (1989)** YE Luqing, WEI Shouping, O. Malik, G. Hope, "Variable Structure and Time-Varying Parameter Control for Hydroelectric Generating Unit", *IEEE Trans. on Energy Conversion*, Vol. 4, No. 3, pp. 293-299, September 1989.
- Luqing et al. (1990)** YE Luqing, WEI Shouping, L. Zhaohui, O. Malik, G. Hope, "Field Tests and Operation of a Duplicate Multiprocessor-Based Governor for Water Turbine and its Further Development", *IEEE Trans. on Energy Conversion*, Vol. 5, No. 2, pp.225-231, June 1990.
- Malik and Zeng (1995)** O. Malik, Y. Zeng, "Design of a Robust Adaptive Controller for a Water Turbine Governing System", *IEEE Trans. on Energy Conversion*, Vol. 10, No. 2, pp. 354-359, June 1995.
- Malik et al. (1991)** O. Malik, G. Hope, G. Hancock, L. Zhaohui, Y. Luqing, W. Shouping, "Frequency Measurement for Use with a Microprocesor-Based Water Turbine Governor", *IEEE Trans. on Energy Conversion*, Vol. 6, No. 3, pp. 361-366, September 1991.
- Marino and Tomei (1995)** R. Marino, P. Tomei, "Nonlinear Control Design: Geometric, Adaptive and Robust", *Prentice Hall*, London, 1995.
- Murphy and Wozniak (1988)** L. Murphy, L. Wozniak, "A Digital Governor for Hydrogenerators", *IEEE Trans. on Energy Conversion*, Vol. 3, No.4, pp. 780-784, December 1988.
- Orelind, Wozniak, et al. (1989)** G. Orelind, L. Wozniak, J. Medanic, T. Whittemore, "Optimal PID Gain Schedule for Hydrogenerators-Design and Application", *IEEE Trans. on Energy Conversion*, Vol. 4, No. 3, pp. 300-307, September 1989.
- Oldenburger, Donelson (1962)** R. Oldenburger, J. Donelson Jr., "Dynamic Response of a Hydroelectric Plant", *AIEE Transactions on Power Apparatus and Systems*, Vol. 81, pp. 403-419, October 1962.
- Ortega et al (1998)** R. Ortega, A. Loria, P. Nicklasson, H. Sira Ramírez, "Passivity- based Control of Euler- Lagrange Systems. Mechanical, Electrical and Electromechanical Applications", *Springer-Verlag*, London, 1998.
- Pegović et al (1987)** S. Pegović, A. Boldy, O. Obradović, "Guidelines to Hydraulic Transient", *Gower Technical Press Ltd.*, England, 1987.
- Quiroga (1998a)** O. Quiroga, "Modelos de Sistemas Hidráulicos", *Proyecto CICYT TAP97-0969-C03-01, Reporte Interno*, Febrero de 1998.
- Quiroga (1998b)** O. Quiroga, "Estudio Descriptivo de Modelos de Sistemas Hidroeléctricos", *IOC-DT-A-1998-08 Institut d'Organització i Control de Sistemes Industrials, Universitat Politècnica de Catalunya, Reporte Interno*, Setiembre de 1998.

- Quiroga (1999)** O. Quiroga, "Identification of the hydroelectric power station of Susqueda", *IOC-DT-P-1999-10, internal report*, June 1999.
- Quiroga and Riera (1999)** O. Quiroga, J. Riera, "Modelos para el Control de Grupos Hidroeléctricos". *Seminario Anual de Automática, Electrónica Industrial e Instrumentación (SAAEI99)*, September 1999, pp. 645-648.
- Quiroga, Batlle and Riera (2000)** O. Quiroga, C. Batlle and J. Riera, "PID and Non-linear Controllers for Power Hydraulic Turbines", *IFAC Workshop on Digital Control: Past, Present and Future of PID Control*, pp. 389- 394, April 2000.
- Quiroga, Batlle and Riera (2000)** O. Quiroga, C. Batlle and J. Riera, "PID and Nonlinear Controllers for Power Hydraulic Turbines", submitted for revision as a recommended paper in a section of the *IFAC Journal Control Engineering Practice (CEP)*, July 2000.
- Raabe (1985)** J. Raabe, "Hydro Power", *VDI-Verlag GmbH*, Düsseldorf, 1985.
- Ramey and Skooglund (1970)** D. Ramey, J. Skooglund, "Detailed Hydrogovernor Representation for System Stability Studies", *IEEE Trans. on Power Apparatus and Systems*, Vol. PAS-89, pp. 106-112, January 1970.
- Riera and Cardoner (1992)** J. Riera, R. Cardoner, "Advanced Governor for Hydroelectric Turbines". *IFAC Symposium: Intelligent Components and Instruments for Control Applications*, pp. 473-478.
- Schniter and Wozniak (1995)** P. Schniter, L. Wozniak, "Efficiency Based Optimal Control of Kaplan Hydrogenerators", *IEEE Trans. on Energy Conversion*, Vol. 10, No.2, pp. 348-353, June 1995.
- Slotine and Li (1991)** J. Slotine, W. Li, "Applied Nonlinear Control", *Prentice Hall*, London, 1991.
- Streeter and Wylie (1975)** V. Streeter, E. Wylie, "Fluid Mechanics", *Mc Graw-Hill*, New York, 1975.
- Throckmorton and Wozniak (1994)** P. Throckmorton, L. Wozniak, "A Generic DSP-Based Real-Time Simulator with Application to Hydrogenerator Speed Controller Development", *IEEE Trans. on Energy Conversion*, Vol. 9, No.2, pp. 238-242, June 1994.
- Trudnowski and Agee (1995)** D. Trudnowski, J. Agee, "Identifying a Hydraulic-Turbine Model from Measured Field Data", *IEEE Trans. on Energy Conversion*, Vol. 10, No. 4, pp. 768-773, December 1995.

- Undrill and Woodward (1967)** J. Undrill, J. Woodward, "Nonlinear Hydro Governing Model and Improved Calculation for Determining Temporary Droop", *IEEE Trans. on Power Apparatus and Systems*, Vol. PAS-86, No. 4, pp.443-452, April 1967.
- Vournas and Daskalakis (1993)** C. Vournas, N. Daskalakis, "Governor Tuning and Regulating Capacity of Hydroelectric Units", *IEEE WESCANEX 93. Communications, Computers and Power in the Modern Environment Conference Proceedings*, pp. 228-233, May 1993.
- Vournas and Zaharakis (1993)** C. Vournas, A. Zaharakis, "Hydro Turbine Transfer Functions with Hydraulic Coupling", *IEEE Trans. on Energy Conversion*, Vol. 8, No. 3, pp. 527-532, September 1993.
- Wrate and Wozniak (1997)** C. Wrate, L. Wozniak, "Hydrogenerator System Identification Using a Simple Genetic Algorithm", *IEEE Trans. on Energy Conversion*, Vol. 12, No. 1, pp. 60-65, March 1997.
- Wozniak (1990)** L. Wozniak, "A Graphical Approach to Hydrogenerator Governor Tuning", *IEEE Trans. on Energy Conversion*, Vol. 5, No. 3, pp.417-421, September 1990.
- Xu et al (1995)** F. Xu, L. Yonghua, C. Qijuan, "Study of the Modeling of Hydroturbine Generating Set", *IEEE/IAS Conference on Industrial Automation and Control: Emerging Technologies*, pp.644-647, May 1995.
- Zipparro and Hasen (1993)** V. Zipparro, H. Hasen, "Davis' Handbook of Applied Hydraulics", *Mc Graw-Hill*, New York, 1993.