

## 8. REFERÈNCIES I BIBLIOGRAFIA

### 8.1 Referències

[Abbondanti 1977] J. Abbondanti, "Method of flux control in induction motors driven by variable frequency, variable voltage supplies" IEEE IAS Ann. Mtg., pp. 177-184, 1977

[Abbondanti i Brenner 1975] J. Abbondanti, M.B. Brenner, "Variable Speed Induction Motor Drives Use Electronic Slip Calculator Based on Motor Voltages and Currents" IEEE Trans. Indus. Appli., vol. 1A-11, no 5, pp. 483-488, 1975.

[AD 2000] Analog Devices "Flux and Speed Estimation for Induction Machines" Literature Number: AN331-29. Analog Devices Inc., May 2000.

[Akatsu i Kawamura 2000] K. Akatsu, A. Kawamura. "Senseless Very Low-Speed and Zero-Speed Estimations with Online Rotor Resistance Estimation of Induction Motor Without Signal Injection" IEEE Transactions on Industry Applications, vol. 36, no. 3 May/June 2000

[Aldabas 2002] Aldabas, E. "Reguladores de intensidad trifásicos con baja frecuencia de conmutación y reducido contenido armónico" Tesis doctoral. UPC 2002.

[Aldabas et al. 2002] E. Aldabas, L. Romeral, A. Arias, J. Català and M.G. Jayne. "Improved Software-Based Current Controller for Three Phase Loads" al 7th International Workshop on Advanced Motion Control AMC'2002. Maribor (Slovenia). vol. 1 pp 221-225. 3-5 Juliol 2002.

[Arias et al. 1998] Arias, A.; Romeral, J.L.; Bedford, D.; Aldabas, E. "Hard-less Dead-time Compensator for PWM Voltage Inverters". IEEE Industrial Electronics Conference (IECON'1998). Volume: 2, 1998 pp. 780-785

[Baader, Depenbrock et al. 1992] U. Baader, M. Depenbrock, G. Gierse "Direct Self Control (DSC) of Inverter-Fed Induction Machine: A Basis for Speed Control Without Speed Measurement" IEEE Trans. Indus. Appli., vol. 28, no 3, pp. 581-588, May/June 1992.

[Bedford 1999] D.J. Bedford, "Control vectorial adaptativo de motores asíncronos de inducción" Tesis doctoral. UPC 1999.

[Ben-Brahim i Kurosava 1993] L. Ben-Brahim, R. Kurosava "Identification of Induction Motor Speed using Neural Networks" IEEE PCC-Yokohama, pp. 689-694, 1993.

[Bkashke 1972] F. Blaschke, "The Principle of Field Orientation as Applied to the New TRANSVEKTOR Closed-Loop Control System for Rotating-Field Machines" Siemens Review XXXIX, no. 5 pp. 217-220.1972

[Català et al. 2000] J. Català i López, J.L. Romeral Martínez, T. Arias i Pujol. "Modelo de Control Vectorial con inclusión de las limitaciones eléctricas del sistema" al "Seminario Anual de Automática, Electrónica Industrial e Instrumentación", SAAEEI'2000. Terrassa. Setembre del 2000., vol. 1, 2000

[Català et al. 2002] J. Català i López, J.L. Romeral Martínez, T. Arias i Pujol., E. Aldabas. "Speed Estimator with Adaptative Fuzzy Filter" al 2002 IFAC 15th World Congress. IFAC'02. Barcelona (Spain). vol. CD version pp. 1-6. 21-26 Juliol 2002.

[Català et al. 2002b] J. Català i López, J.L. Romeral Martínez, T. Arias i Pujol., M.R. Chekkouri. "Adaptive Fuzzy Estimator for a Sensor-less IM Drive" al 2002 International Symposium on Industrial Electronics. IEEE-ISIE 2002 L'Aquila (Italy). vol. 1 pp. 807-812. 8-11 Juliol 2002.

[Català et al. 2002c] J. Català i López, J.L. Romeral Martínez, T. Arias i Pujol., M.R. Chekkouri. "Speed Fuzzy Estimator for a Motion System" al 7th International Workshop on Advanced Motion Control AMC'2002. Maribor (Slovenia). vol. 1 pp. 335-340. 3-5 Juliol 2002.

[Català et al. 2002d] J. Català i López, J.L. Romeral Martínez, T. Arias i Pujol., M.R. Chekkouri. "Sensor-less Speed Control Based on Fuzzy Estimator" al 10th International POWER ELECTRONICS and MOTION CONTROL Conference. EPE-PEMC 2002 Cavtat and Dubrovnik (Croatia). vol. CD version pp. 1-10. 9-11 Setembre 2002.

[Català et al. 2002e] Català, J.; Bordonau, J.; Romeral, L.; Arias, A. " Study of the Propagation of the Modulator and Transistors Dead Time in Sensor-Less AC Motor Drives based on SVPWM" IEEE Industrial Electronics Conference (IECON'2002). CD Version pp 1- 6.

[Consoli et al. 2000] A. Consoli, G. Scarella, A. Testa. "A New Zero-Frequency Flux-Position Detection Approach for Direct-Field-Control Drives" IEEE Transactions on Industry Applications, vol. 36, no. 3 May/June 2000

[Depenbrock 1988] M. Depenbrock "Direct Self Control (DSC) of Inverter-Fed Induction Machine" IEEE Trans. on Power Electronics, vol. 3, no 4, pp. 420-429, October 1988.

[Dion 94] Dion, J.M., T. von Raumer and L. Dugard (1994) "Combined non-linear controller and fullorder observer design for induction motors" Industrial Electronics, Control and Instrumentation, 1994. IECON '94., 20th International Conference on , vol: 3, pp: 2103 –2108

[Doki et al. 1990] S. Doki, S. Sangwongwanich, T. Yonemoto, S. Okuma, "Implementation of Speed-Sensorless Field-Oriented Vector Control Using Adaptative Sliding Observers", IEEE Ind. Elec. Conference (IECON), pp. 453-458, 1990.

- [Hannenberg et al. 1991] G. Hannenberg, B.J. Brunsbach, Th. Klepsch "Field-Oriented Control of Synchronous And Asynchronous Drives Without Mechanical Sensors Using a Kalman Filter" IEEE EPE Firenze, vol. 3, pp. 3664-3671. 1991
- [Holtz 1993] J. Holtz "Methods for Speed Sensorless Control of AC Drives" IEEE PCC-Yokohama, pp. 415-420, 1993
- [Holtz 1993b] Holtz, J. "Sensor-less Speed Estimation and Sensor-less Control of AC Drives". IEEE Industrial Electronics Conference (IECON'1993) vol. 2 pp. 649 -654.
- [Holtz 2000] J. Holtz "Sensorless Speed and Position Control of Induction Motors with Unrestricted Operation at Zero Sator Frequency" Tutorial of Seminario Anual de Automàtica, Electrònica Industrial e Instrumentación. Terrassa, sep 2000
- [Holtz i Lotzkat 1993] J. Holtz, W. Lotzkat, "Controlled AC Drives with Ride-Through Capability at Power Interruption", IEEE IAS Ann. Met., vol. 1, pp. 629-636, 1993.
- [Holtz et al. 1994] J. Holtz, W. Lotzkat, S. Stadtfeld "Controlled AC Drives with Ride-Through Capability at Power Interruption", IEEE Trans. Indus. Appli., vol. 30, no 5, pp. 1275-1283, 1994.
- [Ishida and Iwata 1984] M. Ishida and K. Iwata "A New Slip Frequency Detector of an Induction Motor Utilizing Rotor Slots Armonics" IEEE Trans. Indus. Appli., vol. 1A-20, no 3, pp. 575-581, May/June 1984
- [Jezernik 2000] K. Jezernik "Speed Sensorless Control of IM" Tutorial of Seminario Anual de Automàtica, Electrònica Industrial e Instrumentación. Terrassa, sep 2000
- [Jötten i Mäder 1983] J. Jötten, G. Mäder, "Control Methods for Good Dynamic Performance Induction Motor Drives Based on Current and Voltage as Measured Quantities" IEEE Trans. Indus. Appli., vol. 1A-19, no 3, pp. 356-363, 1983.
- [Kanmachi i Takahashi 1993] T. Kanmachi, I. Takahashi "Sensor-less Speed Control of An Induction Motor with No Influence of Secondary Resistance Variation" IEEE IAS Ann. Mtg., pp. 408-413, 1993.
- [Kanmachi i Takahashi 1995] T. Kanmachi, I. Takahashi "Sensor-less Speed Control of an Induction Motor" IEEE Industry Applications Magazine, pp. 22-27, 1995.
- [Kazmierkowski 2000] Kazmierkowski, M.P. "Control Strategies for PWM Rectifier/Inverter-fed Induction Motors". Proceedings of the IEEE International Symposium on Industrial Electronics (ISIE'2000), vol. 1 pp TU15 -TU23. Cholula, Puebla, México. Dec 2000.
- [Kazmierkowski i Köpcke 1985] M.P. Kazmierkowski, H.J. Köpcke, "A Simple Control System for Current Source Inverter-Fed Induction Motor Drives" IEEE Trans. Indus. Appli., vol. 1A-21, no 3, pp. 617-623, May/June 1985.

- [Kim et al. 1994] Y.R. Kim, S.K. Sul, M.H. Park "Speed Sensorless Vector Control of Induction Motor Using Extended Kalman Filter" IEEE Trans. Indus. Appli., vol. 30, no 5, pp. 1225-1233, September/October 1994.
- [Koga et al. 1991] Koga, K.; Uedo, R.; Sonoda, T. "Evaluations on operating performances of three typical V/f control schemes in PWM inverter drive induction motor system", IEEE Industrial Electronics Conference (IECON'1991). vol. 1, 1991 pp. 701 -706.
- [Kreindler et al. 1992] L. Kreindler, J.C. Moreira A. Testa, T.A. Lipo "Direct Field Orientation Controller Using the Stator Phase Voltage Third Harmonic" IEEE IAS Ann. Met., pp. 508-514, 1992.
- [Kreindler et al. 1994] L. Kreindler, J.C. Moreira A. Testa, T.A. Lipo "Direct Field Orientation Controller Using the Stator Phase Voltage Third Harmonic" IEEE Trans. Indus. Appli., vol. 30, no 2, pp. 441-447, March/April 1994.
- [Kubota et al. 1993] H. Kubota, K. Matsuse, T. Nakano "DSP-Based Speed Adaptive Flux Observer of Induction Motor" IEEE Trans. Indus. Appli., vol. 29, no 2, pp. 344-348, March/April 1993.
- [Kubota i Matsuse 1994] H. Kubota, K. Matsuse, "Speed Sensorless Field-Oriented Control of Induction Motor with Rotor Resistance Adaptation" IEEE Trans. Indus. Appli., vol. 30, no 5, pp. 1219-1224, September/October 1994.
- [Lin i Chen 1999] Yhi-Neg Lin, Chern-Lin Chen "Automatic IM Parameter Measurement Under Sensorless Field-Oriented Control" IEEE Transactions on Industrial Electronics, vol. 46, no. 1 Feb. 1999
- [Lotzkat 1991] W. Lotzkat, "Industrial Low-Cost PWM Inverter Drives with Ride-Through Capability", Ph-D. Thesis (in German), Wuppertal University. 1991.
- [Matlab] Matlab 6.0 Release 12. Copyright 1984-2000 The MathWorks, Inc.
- [Mohan et al. 1995] Mohan, N.; Undeland, T.; Robins, N.Y. "Power Electronics. Converters, Applications And Design". Ed: John Wiley i Sons. 1995 2nd Edition.
- [Noguchi et al. 1997] T. Noguchi, S Kondo, I. Takahashi, "Field-oriented control of an induction motor with robust on-line tuning of his parametres", IEEE Transactions on Industry Applications, vol. IA-33, no. 1 pp. 35-42 Gen/Feb 1997.
- [Ogata 1998] K. OGATA. "Ingenieria de Control Moderna". Tercera Edició. Ed: Prentice Hall. Mejjico, 1998.
- [Ohtani et al. 1992] Ohtani, C. Takada, K. Tanaka "Vector Control of Induction Motor without Shaft Encoder" IEEE Trans. Indus. Appli., vol. 28, no 1, pp. 157-164, 1992.

- [Okuyama et al. 1986] T. Okuyama, N. Fujimoto, T. Matsui, Y. Kubota "A High Performance Speed Control Scheme for Induction Motor without Speed and Voltage Sensors", IEEE IAS Ann. Met., pp. 106-111, 1986 B.
- [Orlowska-Kowalska et al. 2001] Orlowska-Kowalska, T.; Wojsznis, P.; Kowalski, C.T. "Dynamical Performances of Sensorless Induction Motor Drive with Different Flux and Speed Observers" European Power Electronics (EPE'2001) Graz pp.1-12.
- [Peng, i Fukao 1994] F.Z. Peng, T. Fukao "Robust Speed Identification for Speed-Sensorless Vector Control of Induction Motors" IEEE Trans. Indus. Appli., vol. 30, no 5, pp. 1234-1240, September/October 1994.
- [Rajashekara 1991] K.S. Rajashekara, "Impact Speed Calculations", Research Disclosure, N° 32787, July 1991
- [Rajashekara, Kawamura i Matsuse 1996] K. Rajashekara, A. Kawamura, K. Matsuse. "Sensorless Control of AC Motor Drives, Speed and Position Sensorless Operation" IEEE Press. Aselect Reprint Volume IEEE Industrial Electronics Society, 1996
- [Romeral 1995] J.L. ROMERAL. "Optimizaci3n de modelos de Control Digital Para Motores AC". Tesi Doctoral. UPC. 1995.
- [Schauder 1989] C. Schauder "Adaptative Speed Identification for Vector Control of Induction Motors without Rotational Transducers" IEEE IAS Ann. Met., pp. 493-499, 1989.
- [Schauder 1992] C. Schauder "Adaptative Speed Identification for Vector Control of Induction Motors without Rotational Transducers" IEEE Trans. Indus. Appli., vol. 28, no 5, pp. 1054-1061, September/October 1992.
- [Shin et al. 2000] Shin, M.H., S.S. Hyun, S.B. Cho and S.Y. Choe (2000) "An Improved Stator Flux Estimation for Speed Sensorless Stator Flux Orientation Control of Induction Motors" IEEE Transactions on Power Applications, vol. 15, no. 2.
- [Simoes i Bose 1993] M.G. Simoes, B.K. Bose "Neural Network Based Estimation of Feedback Signals for a Vector Controlled Induction Motor Drive" IEEE Trans. Indus. Appli., vol. 31, no 3, pp. 620-629, May/June1993.
- [Simulink] Simulink on Matlab 6.0 Release 12. Copyright 1984-200 The MathWorks, Inc.
- [Takahashi i Noguchi 1985] I. Takahashi, T. Noguchi "A New Quick Response High Efficiently Control Strategy of an Induction Motor" IEEE IAS Ann. Met., pp. 496-502, 1985
- [Tajima i Hori 1993] H. Tajima, Y. Hori, "Speed Sensor-Less Field-Orientation Control of the Induction Machine" IEEE Trans. Indus. Appli., vol. 29, no 1, pp. 175-180, 1993.
- [Tajima et al. 1995] H. Tajima, Y. Matsumoto, H. Umida, M. Kawano "Speed Sensorless Vector Control Method for an Industrial Drive System" IEEE Power Electron. Spec. Conf., Yokohama, pp. 1034-1039, 1995

- [Tusini et al. 2000] M. Tusini, R. Petrella, F. Parasiliti "Adaptive Sliding-Mode Observer for Speed-Sensorless Control of Induction Motors" IEEE Transactions on Industry Applications, vol. 36, no. 5 Sep/Oct 2000
- [TI BPRA043 1996] Texas Instrument, "Digital Signal Processing Solution for AC Induction Motor", BPRA043 Application Report. Ed: Texas Instrument, 1996.
- [TI BPRA048 1997] Texas Instruments, "Clarke & Park Transforms on the TMS320C2xx", BPRA048. Application Report. Ed: Texas Instruments, 1997.
- [TI BPRA057 1997] Texas Instrument "Sensorless Control with Kalman Filter on TMS320 Fixed-Point DSP" Literature Number: BPRA057 Texas Instruments Europe July 1997
- [TI BPRA076 1998] Texas Instruments, "Implementation of a Speed Field Oriented Control of Three Phase AC Induction Motor using TMS320C240", BPRA076. Application Report. Ed: Texas Instruments, 1998.
- [Van der Broeck et al. 1988] Van der Broeck, H.W.; Skudelny, H.-C.; Stanke, G.V. "Analysis and Realization of a Pulse Width Modulator Based on Voltage Space Vectors" IEEE Transactions on Industry Applications, vol. 24 issue 1 part 1, pp. 142 –150. Jan.-Feb. 1988
- [Vas 1998] P. Vas. "Sensorless Vector Control and Direct Torque Control" Oxford University Press. 1998
- [Veszprémi i Schmidt 2000] K. Veszprémi, I. Schmidt "Simple Sensorless Control of Induction Machine with On-line Parameter Identification" ISIE'2000 Cholula, Puebla, Mexico.
- [Xu et al. 1988] X. Xu, R. De Bronker, D.W. Novotny "A Stator Flux Oriented Induction Machine Drive" IEEE Power Electron. Specialists Conf., pp 870-876, 1988
- [Xu i Novotny 1991] X. Xu, D.W. Novotny "Implementation of Stator Flux Oriented Control on a Versatile DSP Based System" IEEE Trans. Indus. Appl., vol. 29, no 2, pp. 694-700, 1991.
- [Yamamura 1986] S. Yamamura, "AC Motors for High-Performance Applications", Marcel Dekker, New York, 1986.
- [Yong et al. 1994] S.I. Yong, J.W. Choi, S.K. Sul "Sensorless Vector Control of an Induction Machine Using High Frequency Current Injection" IEEE IAS Ann. Mtg., pp. 503-508, 1994.
- [Zinguer et al. 1988] D.S. Zinguer, F. Profumo, T.A. Lipo, D.W. Novotny "A Direct Field-Oriented Controller for Induction Motor Drives Using Tapped Stator Windings" IEEE Power Electron. Conf., pp. 855-861, 1988.
- [Zinguer et al. 1990] D.S. Zinguer, F. Profumo, T.A. Lipo, D.W. Novotny "A Direct Field-Oriented Controller for Induction Motor Drives Using Tapped Stator Windings" IEEE Trans. Indus. Appl., vol. 5, no 4, pp. 446-453, October 1990.

## 8.2 Bibliografia

VAS, P., "Sensorless Vector and Direct Torque Control". Ed: Oxford University Press, Oxford 1998.

NOVOTNY, D.W. & LIPO, T. A., "Vector Control and Dynamics of AC Drives". Ed: Clarendon Press. Oxford, 1996.

ONG, CHEE-MUN, "Dynamic Simulation of Electric Machinery". Ed: Prentice Hall PTR. New Jersey, 1997.

Texas Instrument, "Field Orientated Control of 3-Phase AC-Motors", BPRA073. Application Report. Ed: Texas Instrument, 1998.

Texas Instrument, "Clarke & Park Transforms on the TMS320C2xx", BPRA048. Application Report. Ed: Texas Instrument, 1997.

Texas Instrument, "Digital Signal Processing Solution for AC Induction Motor", BPRA043 Application Report. Ed: Texas Instrument, 1996.

Texas Instrument, "Implementation of a Speed Field Orientated Control of Three Phase AC Induction Motor using TMS320C240", BPRA076. Application Report. Ed: Texas Instrument, 1998.

Texas Instrument, "TMS320 Floating Point DSP Assembly Language Tools. User's Guide". Ed: Texas Instrument, USA, 1995.

Texas Instrument, "TMS320C3x User's Guide". Ed: Texas Instrument, USA, 1994.

MOHAN, UNDELAND, ROBBINS. "Power Electronics. Converters, Applications, and Design". Ed: Wiley. 1995 Second edition

ARIAS, A. ".Modulador vectorial per a pont inversor trifàsic amb algoritme de compensació de temps morts". Projecte final de carrera. E.T.S.E.I.T. Juny de 1997

CATALÀ, J., "Control Transvectorial Indirecte de la Màquina Asíncrona d'Inducció" Projecte final de carrera. E.T.S.E.I.T. Juliol de 2000

OGATA, K., "Ingenieria de Control Moderna". Tercera Edició. Ed: Prentice Hall. Mejico, 1998.

CIPOLLA, M., "Compensación de las Variaciones de los Parámetros por Efectos Térmicos y no Linialidades en el Control Electrónico de Máquinas Asíncronas Empleando Algoritmos Vectoriales". Tesi Doctoral. UPC. Barcelona, 1996.

SCHILDT, H., "Turbo C/C++. Manual de Referencia". Ed: McGraw-Hill, 1991.

MATA, A., "Turbo C/C++. Iniciació y Programación Avanzada. 5ª Edición". Ed: Paraninfo. Madrid, 1991.

Reglamento Electrotécnico de Baja Tensión. Centro de Publicaciones Ministerio de Industria y Energía. Madrid 1985.

BORDONAU, J., "Disseny d'inversors i rectificadors avançats: Noves aplicacions industrials i de gestió energètica" Assignatura de doctorat. Barcelona. 2000.

GUINJOAN, F., "Control Fuzzy de sistema processadores de potència" Assignatura de doctorat. Barcelona 2001.

PEDRA, J., "Control de la Màquina d'Inducció" Assignatura de doctorat. Barcelona 2001.