

## **1991**

- [1] "Harmonic evaluation in electrical plants supplying 6-pulse ac/dc converters" (with A. Cavallini, M. Loggini), 4th EUROPEAN CONFERENCE on POWER ELECTRONICS and APPLICATION, Florence, Italy, pp. 231-236, September 1991.
- [2] "A critical review of harmonic current estimate in electrical plants with distorting loads" (with A. Cavallini, M. Loggini, R. Miglio), INTERNATIONAL CONFERENCE "SIGNAL, DATA, SYSTEMS", pp. 235-246, Djerba, Tunisia, November 1991.
- [3] "A probabilistic approach to the problem of distortion evaluation in electrical plants" (with M. Cacciari, A. Cavallini, G. Tambini), INTERNATIONAL CONFERENCE "SIGNAL, DATA, SYSTEMS", pp. 247-258, Djerba, Tunisia, November 1991.

## **1992**

- [4] "Long-term electrical performance and life model fitting of XLPE and EPR insulated cables" (with M. Cacciari, A. Motori, A. Cavallini, L. Simoni), IEEE TRANSACTIONS on POWER DELIVERY, Vol 7, n. 2, pp. 634-641, April 1992.
- [5] "Harmonic sum for parallel-connected AC/DC converters" (with M. Cacciari, A. Cavallini, M. Loggini, R. Miglio), INTERNATIONAL CONFERENCE ACEMP'92, Kusadasi, Turkey, pp. 473-478, May 1992.
- [6] "On the significance of an accurate evaluation of harmonic amplitudes and phases in electrical plant design" (with M. Loggini, A. Cavallini), 5th INTERNATIONAL CONFERENCE on HARMONICS in POWER SYSTEMS, 228-233, Atlanta, USA, 23-25 September 1992.
- [7] "General criteria for the stochastic sum of measured harmonics at plant busses" (with M. Cacciari, A. Cavallini, M. Loggini), IEEE INDUSTRY APPLICATION SOCIETY ANNUAL MEETING, 1351-1359, Houston, USA, 4-9 October 1992.

## **1993**

- [8] "A survey on the solutions for harmonic filtering" (in italian, with A. Cavallini, M. Loggini, A. Morando, G. Superti-Furga, E. Tironi), L'ENERGIA ELETTRICA, Vol. 70, n. 12, 507-519, October 1993.
- [9] "On the problem of flicker and harmonic current compensation in arc furnaces" (in Italian, with A. Cavallini, M. Loggini, A. Santarelli), Proc. of the conference on "La Qualità del Prodotto Elettricità. Interfacciamento Distributore-Utente", 227-254, Verona, Italy, 25-26 November 1993.

## **1994**

- [10] "Comparison of approximate methods for estimate harmonic currents injected by AC/DC converters" (with A. Cavallini, M. Loggini), IEEE TRANSACTIONS on INDUSTRIAL ELECTRONICS, Vol 41, n. 2, 256-262, April 1994.

- [11] "Generation of uncharacteristic harmonics in electrical plants with AC/DC converters" (with M. Loggini, A. Cavallini), EUROPEAN TRANSACTIONS on ELECTRICAL POWER ENGINEERING, Vol. 4, n. 3, 187-194, June 1994.
- [12] "Behaviour of harmonic current vectors generated by 6-pulse AC/DC converters as function of plant parameters" (with A. Cavallini, M. Loggini), EUROPEAN TRANSACTIONS on ELECTRICAL POWER ENGINEERING, Vol. 4, n. 3, 195-203, June 1994.
- [13] "Evaluation of harmonic levels in electrical networks by statistical indexes" (with M. Cacciari, A. Cavallini, M. Loggini), IEEE Industry Application Annual Meeting, 1586-1593, Toronto, Canada, 4-9 ottobre 1993, published in IEEE TRANSACTIONS ON INDUSTRY APPLICATION, Vol. IA-30, n. 4, 1116-1126, August 1994.
- [14] "A comparison of active and passive power filters applied to AC/DC converters" (with A. Cavallini, M. Loggini), 6th INTERNATIONAL CONFERENCE on HARMONICS in POWER SYSTEMS, 256-262, Bologna, Italy, 21-24 September 1994.
- [15] "Non-parametric prediction of harmonic levels in electrical networks" (with A. Cavallini, M. Cacciari, M. Loggini, O. Lessi), 6th INTERNATIONAL CONFERENCE on HARMONICS in POWER SYSTEMS, 165-171, Bologna, Italy, 21-24 September 1994.
- [16] "Flicker and distortion compensation in electrical plants supplying arc-furnaces" (with M. Loggini, A. Cavallini, L. Pitti,), IEEE INDUSTRY APPLICATION SOCIETY ANNUAL MEETING, 2249-2255, Denver, USA, 2-7 October 1994.
- [17] "Arc-furnace model for the study of flicker compensation in electrical networks" (with M. Loggini, A. Cavallini, L. Pitti, D. Zaninelli), IEEE TRANSACTIONS on POWER DELIVERY, Vol. 9, n. 4, 2026-2036, October 1994.
- [18] "Compensation strategies for shunt active-filter control" (with A. Cavallini), IEEE TRANSACTIONS on POWER ELECTRONICS, Vol. 9, n.6, 587-593, November 1994.

## 1995

- [19] "ATP simulation for arc-furnace flicker investigation" (with A. Cavallini, L. Pitti, D. Zaninelli), EUROPEAN TRANSACTIONS on ELECTRICAL POWER ENGINEERING, Vol. 5, n. 3, 165-172, June 1995.
- [20] "An experience of cooperation between university and industry for the technological development of electrical insulating materials" (with A. Cavallini, G. Mazzanti, A. Motori), 6th Conference on the Technology Transfer in Electrical and Information Engineering, 107-114, 107-114Bologna, Italy, 31 May-2 June 1995.
- [21] "Comparison of random generators for Monte Carlo estimates of Weibull parameters" (with A. Cavallini, L. Tommasini, M. Cacciari, A. Contin), METRON, Vol. LIII, n. 1-2, 55-77, June 1995.
- [22] "Sobre el problema de la reduccion del flicker y de las corrientes armonica en los hornos de potencia elevada" (with A. Cavallini, M. Loggini, R. Miglio), IEEE RVP' 95, pp. 1-8, Acapulco, Mexico, 16-21 July 1995.
- [23] "Stochastic evaluation of harmonics at network buses" (with A. Cavallini, M. Cacciari), presented at 6th IEEE ICHPS, Bologna, 21-24 september 1994, and published in IEEE TRANSACTIONS on POWER DELIVERY, Vol. 10, n. 3, 1606-1613, July 1995.
- [24] "Considerations on the probabilistic investigation of the harmonic penetration in electrical systems" (in Italian, with A. Cavallini), Riunione Annuale AEI, 39-44, Rome, Italy, 24-27 September 1995.
- [25] "A simplified solution for bi-dimensional random-walks and its application to power quality related problems" (with A. Cavallini), IEEE INDUSTRY APPLICATION SOCIETY ANNUAL MEETING, 1125-1132, Orlando, USA, 8-12 October 1995.

- [26] "A parametric approach to the prediction of the time-behavior of harmonic-quantities in electrical networks" (with A. Cavallini), IEEE INDUSTRY APPLICATION SOCIETY ANNUAL MEETING, 2226-2232, Orlando, USA, 8-12 October 1995.

## 1996

- [27] "Application of the Kalman filter for electrical endurance characterization of insulating materials and systems" (with G. Mazzanti, A. Cavallini, M. Cacciari), IEEE TRANSACTIONS on DIELECTRICS and ELECTRICAL INSULATION, Vol. 3, n. 1, 56-63, February 1996.
- [28] "Inference of a continuous auto-regressive model for the forecasting of non-stationary stochastic processes deriving from energy demand in electrical networks" (with A. Cavallini, G. Mazzanti), MELECON ' 96, 726-729, BarItaly, 13-16 May 1996.
- [29] "A parametric investigation on the effect of harmonic distortion on life expectancy of power capacitors" (with A. Cavallini, I. Ghinello, G. Mazzanti, L. Simoni), MELECON ' 96, 491-494, Bari, Italy, 13-16 May 1996.
- [30] "Harmonic surveying of medium voltage distribution networks: optimization criteria" (with A. Cavallini), 7th INTERNATIONAL CONFERENCE on HARMONICS and QUALITY of POWER, 740-746, Las Vegas, USA, 16-18 October 1996.
- [31] "Statistical modeling of harmonic distortion at residential outlets" (with A. Cavallini, R. Miglio), 7th INTERNATIONAL CONFERENCE on HARMONICS and QUALITY of POWER, 528-533, Las Vegas, USA, 16-18 October 1996.
- [32] "The effect of nonsinusoidal supply on life performance of electrical insulating systems" (with A. Cavallini, G. Mazzanti), 7th INTERNATIONAL CONFERENCE on HARMONICS and QUALITY of POWER, 473-480, Las Vegas, USA, 16-18 October 1996.

## 1997

- [33] "A deterministic/stochastic framework for power system harmonics modeling" (with A. Cavallini), presented at IEEE PES Winter Meeting, Baltimora, 21-25 January 1996, and published in IEEE TRANSACTIONS on POWER SYSTEMS, Vol. 12, n. 1, 407-415, February 1997.
- [34] "Probabilistic investigation of the life behavior of power capacitors operating under distorted supply voltage" (with A. Cavallini, G. Mazzanti), LIFETIME DATA ANALYSIS, Vol. 3, n. 1, 47-61, February 1997.
- [35] "Stochastic design of compensation systems in the presence of voltage and current harmonics" (in Italian, with A. Cavallini, G. Mazzanti), Riunione Annuale AEI, 79-85, Baveno, 7-9 May 1997.
- [36] "Improving the efficiency of power factor correction by probabilistic criteria" (with G. Mazzanti, A. Cavallini), POWER QUALITY '97, Baltimore, USA, 6-12 September 1997.
- [37] "Adaptive eigendecomposition and regression analysis for energy demand measurements" (with A. Cavallini), 5th Int. PMAPS Conference, 1-7, Vancouver, Canada, 22-25 September 1997.

## 1998

- [38] ‘Design of shunt capacitor circuits for power factor compensation in electrical systems supplying non-linear loads: a probabilistic approach’ (with A. Cavallini, G. Mazzanti, C. Romagnoli); IEEE INDUSTRY APPLICATION SOCIETY ANNUAL MEETING, 1-8, Baltimore, USA, 6-12 October 1997, published in IEEE Trans. on Industry Applications, Vol. 34, 1998.
- [39] “Power spectral density estimation of randomly sampled partial discharge signals” (with A. Contin, A. Cavallini), 6<sup>th</sup> IEEE ICSD, 135-138, Vasteras, Sweden, 22-25 June 1998.
- [40] “Time-varying harmonics: Part I - Characterizing measured data” (with Y. Baghzouz, A. Cavallini and other members of the Probabilistic Aspect task Force of the Harmonic WG Sc of the T&D Committee of the IEEE PES), presented at the IEEE PES Summer Meeting, Berlino, 20-24 luglio 1997, and published in IEEE TRANSACTIONS on POWER DELIVERY, Vol. 13, N. 3, 938-944, July 1998.
- [41] “Theoretical considerations on the design of a multistep power factor correction apparatus” (with A. Cavallini, G. Mazzanti), 8<sup>th</sup> IEEE ICHQP, 783-790, Athen, Greece, 14-16 October 1998.
- [42] “Analysis and modeling of harmonic pollution due to consumer electronics” (with A. Cavallini, G. Gambelli, A. Invernizzi), 8<sup>th</sup> IEEE ICHQP, 865-872, Athen, Greece, 14-16 October 1998.
- [43] “Accelerated capacitor degradation due to nonsinusoidal voltage supply and reliability of insulation systems” (with A. Cavallini, I. Ghinello, G. Mazzanti), 8<sup>th</sup> IEEE ICHQP, 720-726, Athen, Greece, 14-16 October 1998.
- [44] “An investigation of the endurance of capacitors supplied by nonsinusoidal voltage” (with I. Ghinello, G. Mazzanti, A. Cavallini), IEEE CEIDP, 723-727, Atlanta, USA, 25-28 October 1998.

## 1999

- [45] A. Cavallini, I. Ghinello, G. Mazzanti, G. C. Montanari, “Considerations on the life performance and installation practice of shunt capacitors in the presence of harmonics generated by AC/DC converters, IEEE Trans. on Power Del., Vol. 14, n. 1, 227-234, January 1999.
- [46] A. Cavallini, A. Contin, G. C. Montanari, P. F. Morshuis, F. Puletti, “Theoretical and experimental derivation of partial discharge height distribution models”, IEEE CEIDP, with 222-226, Austin, USA, October 1999.

## 2000

- [47] A. Cavallini, A. Contin, G. C. Montanari, "Random sampling techniques and data processing for PD-pulse height and shape analysis", IEEE Trans. on Dielectrics and Electrical Insulation, Vol. 7, n. 1, pp. 30-39, February 2000.
- [48] A. Cavallini, A. Contin G. C. Montanari F. Puletti,"A novel technique for the identification of defects in stator bar insulation systems by partial discharge measurements", IEEE ISEI, pp. 501-505, Anaheim, USA, April 2000.
- [49] A. Contin, D. Fabiani, G. Mazzanti, G. C. Montanari,'Voltage endurance of electrical components supplied by distorted voltage waveforms" (with A. Cavallini, IEEE ISEI, pp. 73-76, Anaheim, USA, April 2000.
- [50] A. Cavallini, D. Fabiani, G. Mazzanti, G. C. Montanari, L. Simoni, 'Life estimation of DC insulation systems in the presence of voltage-polarity inversions" , IEEE ISEI, pp. 473-476, Anaheim, USA, April 2000.
- [51] A. Cavallini, D. Fabiani, G. Mazzanti, G. C. Montanari, "Models for degradation of self-healing capacitors operating under voltage distortion and temperature" , IEEE ICPADM, pp. 108-111, Xi'an, China, June 2000.
- [52] A. Cavallini, A. Contin, G. C. Montanari, P. F. Morshuis, F. Puletti,'Time behavior of physical and stochastic parameters from partial discharges inception in spherical voids" , IEEE ICPADM, pp. 304-309, Xi'an, China, June 2000.
- [53] P. Caramia, G. Carpinelli, A. Cavallini, G. Mazzanti, G. C. Montanari, P. Verde , "An approach to life estimation of electrical plant components in the presence of harmonic distortion", 9<sup>th</sup> IEEE ICHQP, pp. 887-892, Orlando, USA, October 2000.
- [54] A. Cavallini, A. Contin, G. C. Montanari, G. Pasini, F. Puletti,'Stochastic analysis of partial discharges signals for diagnosis of insulation systems of ac rotating machine stator windings", IEEE IAS, pp. 359-366, Roma, Italia, October 2000.
- [55] A. Cavallini, D. Fabiani, G. Mazzanti, "The effect of power system harmonics on cable endurance and reliability", IEEE IAS, pp. 3172-3179, Rome, Italy, October 2000.
- [56] A. Cavallini, A. Contin, G. C. Montanari, G. Pasini, F. Puletti"Artificial intelligence methodology for separation and classification of partial discharge signals" , IEEE CEIDP, pp. 522-526, Victoria, Canada, October 2000.
- [57] M. Albertini, A. Cavallini, G. C. Montanari, F. Ombello, F. Puletti,'Improved diagnostic tools for cable accessories by digital PD detection systems", Conf. On High Voltage Plant Life Extension, pp. 2.2.1-2.2.9, Linkebeek, Belgium, November 2000.

## 2001

- [58] Andrea Cavallini, Marco Conti, Davide Fabiani, G. C. Montanari, "A summary of research activities on diagnostic at LIMAT", IEEE SDEMPED, pp. 107-109, Grado, Italia, September 2001.
- [59] A. Cavallini, F. Filippetti, "Hierarchical procedure for the diagnostics of electromechanical system faults, IEEE SDEMPED, pp. 71-76, Grado, Italia, September 2001.
- [60] A. Cavallini, G. Mazzanti, G. C. Montanari, " Privatization of electrical energy national industry: reliability problems" (in Italian), Riunione Annuale AEI, pp. 1-6, Padova, Italy, September 2001.

- [61] P. Caramia, G. Carpinelli, A. Cavallini, D. Fabiani, G. Mazzanti, G. C. Montanari, P. Verde, "Life estimate of electrical system components in the presence of harmonic distortion" (in Italian), Riunione Annuale AEI, pp. 207-212, Padova, Italy, September 2001.
- [62] A. Cavallini, M. Conti, A. Contin, G. C. Montanari, "Automatic noise rejection tools in on-field PD measurements", invited paper, V Volta Colloquium, Como, Italy, September 2001.
- [63] A. Cavallini, M. Conti, A. Contin, G. C. Montanari, G. Pasini, "An integrated diagnostic tool based on PD measurements", EIC 2001, pp. 219-224, Cincinnati, USA, October 2001.
- [64] "Evaluation of corona resistant magnet wires through partial discharge and space charge measurements" (with A. Cavallini, M. Conti, D. Fabiani), EIC 2001, pp. 219-224, Cincinnati, USA, October 2001.
- [65] A. Cavallini, D. Fabiani, G. Mazzanti, G. C. Montanari "A general model for life estimation of cables under dc stress with voltage-polarity inversions accounting for space-charge effects", IEEE ISEIM, pp. 449-452, Himeji, Giappone, November 2001.

## 2002

- [66] "Digital detection and fuzzy classification of partial discharge signal" (with A. Contin, A. Cavallini, G. Pasini, F. Puletti,), IEEE Trans. on Dielectrics and Electrical Insulation, Vol. 8, n. 5, pp. , February 2002.
- [67] "Searching for PD-based indexes able to infer the location of internal defects in insulation", with M. Conti, G. C. Montanari, A. Contin, R. Candela, P. Romano and R. Schifani IEEE CEIDP annual report, Cancun, Mexico, October 2002.
- [68] "The effect of voltage frequency on partial discharge activity", with A. Cavallini, P. Morshuis, R. Bodega, F. Wester, IEEE CEIDP, pp. 685-689, Cancun, Messico, October 2002.
- [69] "Cable diagnosis based on defect location and characterization through partial discharge measurements", with M. De Nigris, G. Rizzi, F. Ombello, F. Pulenni, G. C. Montanari, CIGRE' 2002, paper 15-109, Paris, France, August 2002
- [70] "Degradation evaluation of ac-motor winding insulation subjected to PWM voltage waveforms through space charge measurements", with D. Fabiani, G. C. Montanari, INSUCON 2002, pp. 157-161, Berlin, Germany, June 2002.
- [71] "On-field partial discharge measurements: a feasible approach to noise rejection and defect assessment", with M. Conti, G. C. Montanari, INSUCON 2002, pp. 157-161, Berlin, Germany, June 2002.
- [72] "Simulation of complex reliability systems in the presence of aging and maintenance crew limitations", with D. Fabiani and G. C. Montanari, PMAPS, pp. 637-642, Naples, Italy, September 2002.
- [73] 'Life model based on space charge quantities for HVDC polymeric cables subjected to voltage-polarity inversion", with D. Fabiani, G. Mazzanti, G. C. Montanari, IEEE Trans. on Dielectrics and Electrical Insulation, Vol. 9, n. 4, pp. 514-523, August 2002.

## 2003

- [74] "Advanced PD Inference in On-Field Measurements. Part I: Noise Rejection", with Montanari, G.C., Contin, A. and Puletti, F., *IEEE Trans. on. Electr. Insul.*. Vol.10. N.2, April 2003, pp. 23-30
- [75] "Advanced PD Inference in On-Field Measurements. Part.2: Identification of Defects in Solid insulation Systems", with Conti, M., Contin, A. and Montanari, G.C., *IEEE Trans. on. Electr. Insul.*, Vol.10. N.3, June 2003.
- [76] "A new approach to the diagnosis of solid insulation systems based on PD signal inference", with G. C. Montanari, A. Contin and F. Puletti, *IEEE Electrical Insulation Magazine*, Vol.19, No. 2, pp. 23-30, April 2003
- [77] "Techniques for off-line measurement and analysis of PD pulses in inverter-fed induction motors", with G. C. Montanari, A. Contin, Y. Qinxue, IEEE ICPADM, pp. 1071-1075, Nagoya, Japan, June 2003.
- [78] "Early detection of electrical tree through advanced PD measurement inference techniques", with M. Conti, G. C. Montanari, A. Contin, F. Guastavino, F. Ombello, JICABLE, pp. 612-616, Versailles, France, June 2003.
- [79] "Applications to cable diagnosis of new methodologies for partial discharge inference", with D. Fabiani, G. C. Montanari, F. Ombello, F. Franchi Bononi, JICABLE, pp. 659-664, Versailles, France, June 2003.
- [80] "The influence of power-electronic waveforms on partial discharge inception in low voltage rotating machines", with D. Casadei, D. Fabiani, C. Rossi, G. Serra, and G. C. Montanari, Int. Conf. Coil Winding, Insulation and Electrical Manufacturing (CWIEME'03), Berlin, Germany, June 2003.
- [81] "Partial Discharge Cross-talk Recognition in Rotating Machines by pulse-shape analysis: preliminary results", with M. Conti, G. C. Montanari, A. Contin, F. Puletti, IEEE EIC, Indianapolis (USA), September 2003.
- [82] "Evolution in Automatic Phase Resolved Partial Discharge Pattern Recognition for Rotating Machine Diagnosis", with Hudon, C., Contin, A., Bélec, M., Cavallini, A., Nguyen D.N, Montanari, G. C. and Conti, M.: 2003 ISH, Delft, the Netherlands, August 2003
- [83] "First electron availability and PD generation in insulation cavities", with G. C. Montanari, M. Conti, F. Ciani, G. Mazzanti, S. Serra, IEEE CEIDP, Albuquerque, USA, October 2003.
- [84] "Modeling memory phenomena for partial discharge processes in insulation cavities", with R. Ciani, M. Conti, P. F. H. Morshuis, G. C. Montanari, IEEE CEIDP, Albuquerque, USA, October 2003.

## 2004

- [85] "Partial Discharge Inference by an Advanced System. Analysis of Online Measurements Performed on Hydrogenerator", with J. Borghetto, A. Contin, G. C. Montanari, M. de Nigris, G. Pasini, R. Passaglia, to be published on *IEEE Trans. on Energy Conversion*, 2004.
- [86] "Investigation of the relation between space charge accumulation and partial discharge activity in enamelled wires under PWM-like voltage waveforms", with D. Fabiani, G. C. Montanari, G. Mazzanti, to be published on *IEEE Trans. on Dielectrics and Electrical Insulation*, 1994.