

Gennaio 2004

Elenco delle Pubblicazioni**Articoli apparsi su riviste o libri a diffusione internazionale**

- A.1) R. Frezza, A. J. Krener, S. Karahan, M. Hubbard “Application of an efficient nonlinear filter” in *Theory and Applications of Nonlinear Control Systems*, C. I. Byrnes and A. Lindquist Eds., Elsevier Science Publ. (North Holland), 1988.
- A.2) B. C. Levy, R. Frezza, A. J. Krener “Modeling and estimation of discrete time Gaussian reciprocal processes” *IEEE Trans. Automat. Contr.*, vol. AC-35, pp.1013–1023, sept. 1990.
- A.3) A. J. Krener, R. Frezza, B. C. Levy “Gaussian reciprocal processes and self adjoint stochastic differential equations of second order” *Stochastics and Stochastics Reports*, vol. 34, pp. 29–56, 1991.
- A.4) R. Frezza “Modeling and classification of Gaussian second order reciprocal processes”, In *Modeling and Control of Uncertain Systems*, G. Di Masi, A. Gombani and A. Kurzanski Eds., Birkhäuser Boston Inc., 1991.
- A.5) C.F. Borges, R. Frezza, W.B. Gragg, “Some Inverse Eigenproblems for Jacobi and Arrow Matrices”, *J. Numer. Linear Algebra Appl.*, vol. 2 (3) : pp. 195–203, 1995.
- A.6) R. Frezza, P. Perona, G. Picci, S. Soatto. System-Theoretic Aspects of Dynamic Vision. *Trends in Control, A European Perspective*, A. Isidori (Ed.), Springer, pp. 349–384, 1995.
- A.7) S. Soatto, R. Frezza, P. Perona, “Motion Estimation via Dynamic Vision.” *IEEE Trans. Aut. Cont.*, vol. 41, No. 3, pp. 393–413, March 1996.
- A.8) C.F. Borges, R. Frezza. “Models of Gaussian Reciprocal Processes and Periodic Jacobi Matrices”, *Journal of Mathematical Systems, Estimation, and Control*, vol. 8, no. 1, (1998), pp. 131-134.
- A.9) R. Frezza, S. Soatto, G. Picci, “A Lagrangian Formulation of Nonholonomic Path Following”. *The confluence of Vision and Control*, S. Morse, D. Kriegman, G. Hager eds., Springer Verlag 1998.
- A.10) A. Matveev, X. Hu, R. Frezza, H. Rehbinder. “Observers for Systems with Implicit Output.” *IEEE Trans. Aut. Cont.*, vol. 45, No. 1, pp. 168–173, Jan. 2000.
- A.11) C. Altafini, R. Frezza “Motion on submanifolds of noninvariant holonomic constraints for a kinematic control system evolving on a matrix Lie group.” *Systems and Control Letters*, vol. 50-3, pp. 241-250, 2003.
- A.12) R. Frezza, A. Beghi “Simulating a motorcycle driver.” In Wei Kang,, Mingqing Yao, Carlos Borges. *New Trends in Nonlinear Dynamics and control, and their Applications*, (vol. 295, pp. 175-187). ISBN: 3-540-40474-0. LNCIS, Lecture notes in Control and Information Sciences. Berlin: Springer.

Articoli presentati a congressi

- B.1) S. Karahan, A. J. Krener, M. Hubbard, R. Frezza “Higher order linear approximations to nonlinear control systems” *Proc. of the 26th IEEE Conf. on Decison and Control*, Los Angeles California Dec. 1987.
- B.2) R. Frezza “1-D Linear stochastic boundary value problems” Note presented the 24th november 1990 at the meeting of the “Istituto Veneto delle Scienze, Lettere ed Arti”.

- B.3) R. Frezza “Noncausal representations of unilateral Markov random fields” *Recent Advances in Mathematical Theory of Systems, Control, Networks and Signal Processing, Proc. Int. Symp. MTNS '91*, Progress in Systems and Control Theory, H. Kimura and S. Kodama eds., Tokyo, 1993.
- B.4) R. Frezza, “Models of higher order reciprocal processes”, *Recent Advances in Mathematical Theory of Systems, Control, Networks and Signal Processing, Proc. Int. Symp. MTNS '91*, Progress in Systems and Control Theory, H. Kimura and S. Kodama eds., Tokyo, 1993.
- B.5) P. Perona, R. Frezza, G. Picci, “Visual measurement in dynamic vision for autonomous navigation”, In *Proc. First Workshop on Robotics in Space*, Pisa, June 17-18, 1991.
- B.6) C. F. Borges, R. Frezza “On Model Identification of Reciprocal Stochastic Processes from the Eigenstructure of their Covariance.” *Computation and Control III: Proceedings of the Third Bozeman Conference*, J. Lund and K. Bowers eds., Progress in Systems and Control Theory, Birkhäuser, 1993.
- B.7) S. Soatto, P. Perona, R. Frezza, G. Picci, “Recursive motion and structure estimation with complete error characterization”, In *Proc. IEEE Comput. Soc. Conf. Comput. Vision and Pattern Recogn.*, pp. 428–433, New York, June 1993.
- B.8) R. Frezza, F. Vedana, P. Perona, G. Picci, “Autonomous vision-based navigation in buildings”, *Proc. IFAC 12th world congress*, Vol. 7, Sidney, Australia, 1993.
- B.9) S. Soatto, R. Frezza, P. Perona. “Motion estimation on the essential manifold.” In *Proc. 3rd Europ. Conf. Comput. Vision, J.-O. Eklundh (Ed.), LNCS-Series Vol. 800-801, Springer-Verlag*, pages 61–72, Stockholm, May 1994.
- B.10) S. Soatto, P. Perona, R. Frezza, G. Picci “Motion Estimation via Dynamic Vision”, In *Proc. of 33rd IEEE Conf. on Decision and Control*, 1994.
- B.11) S. Soatto, R. Frezza, P. Perona. “Recursive estimation of camera motion from uncalibrated image sequences.”, In *Proc. of the first IEEE Conf. on Image Processing*, 1994.
- B.12) S. Soatto, R. Frezza, P. Perona. “Structure from visual motion as a nonlinear observation problem.” In *Proc. of the IFAC-NOLCOS Conference*, June, 1995.
- B.13) R. Frezza, G. Picci “On line path following by recursive spline updating.” In *Proc. of the 34th Conf. on Decision and Control*, New Orleans, December 1995.
- B.14) R. Frezza, S. Soatto. “Navigation by Controlling Shape.” *Note presented at Math. Theory of Netw. and Systems*, St. Louis, June 1996.
- B.15) A. Beghi and R. Frezza, “Properties of stochastic boundary models and their implications on approximation.” Presentato al MTNS-96, St. Louis, MO, June 1996. (Copie d'obbligo presentate presso la Procura e la Prefettura di Padova).
- B.16) G. Cortelazzo, R. Frezza, F. Visoná. “An inexpensive method for electronically displaying paintings at predetermined spatial resolution.” In *Proc. of EVA'96, Conference on Electronics in the Visual Arts*, Florence Feb. 1996.
- B.17) C. Doignon, G. M. Cortelazzo, R. Frezza. “A robust camera calibration technique for high resolution image acquisition.” In *Proc. of European Conference on Multimedia Applications, Services and Techniques*, Louvain-La-Neuve, Belgium, May 1996.
- B.18) M. Cossi, G. M. Cortelazzo, R. Frezza “Reconstruction of structure and texture of planar environments by dynamic vision techniques.” In *Proc. of EUSIPCO'96*, Trieste, Sep. '96.
- B.19) R. Frezza, M. Cossi, E. Bertuzzi, A. Vettore. “Estimate of Environments composed by n planes by Dynamic Vision Techniques.” In *Proc. of ISPRS WG VI/3 Meeting*, International Archives of Photogrammetry and Remote Sensing, Feb. 1997.

- B.20) A. Matveev, X. Hu, R. Frezza, H. Rehlinger. "Observers for Systems with Implicit Output." In *Proc. of 5th IEEE Med. Control Conference*, Paphos, Cyprus, July, 1997.
- B.21) A. Sorrentino, F. Cuzzolin, R. Frezza. "Using Hidden Markov Models and Dynamic Size Functions for Gesture Recognition", In *Proc. Eighth British Machine Vision Conference*, Sept. 1997.
- B.22) R. Frezza, S. Soatto, G. Picci. "Visual Path Following by Recursive Spline Updating." In *Proc. IEEE Conf. on Dec. and Control*, Dec. 1997.
- B.23) R. Frezza, G. Picci, and S. Soatto. "Non-holonomic Model-based Predictive Output Tracking of an Unknown Three-dimensional Trajectory", In *Proceedings of the IEEE Conference on Decision and Control*, Tampa - FL, December 1998.
- B.24) R. Frezza, B. Ros, D. Crovato, M. Zampato, M. Filippini, "Segmentation of underwater images by edge detection on posterior probabilities", note presented at the Workshop on Edge Detection and Statistical Methods in Image Processing, Rome, June 1999.
- B.25) A. Scaggianti, R. Frezza, M. Zampato, "Identifying and Tracking Ellipses: a technique based on elliptical active contours", To appear in *Proc. ICIAP'99*, Venice, September, 1999.
- B.26) R. Frezza, "Path Following by Curve Fitting with Feasible Trajectories", In *Proc. IEEE Conf. on Applied Intelligent Mechatronics (AIM'99)*, September 1999, Atlanta, GA.
- B.27) F. Cuzzolin, R. Frezza, "An evidential reasoning framework for object tracking", In *Proc. of SPIE Photonics East 9 - Telemicroscopy and Telepresence Technologies VI*, V. 3840, pp. 13-24, september 1999.
- B.28) C. Altafini, R. Frezza, J. Galic, "Observing the Load Dynamic of an Overhead Crane with Minimal Sensor Equipment", In *Proc. International Conference on Robotics and Automation*, San Francisco, April 2000.
- B.29) R. Frezza, "How much does one need to know about a curve in order to follow it with a nonholonomic vehicle?", In *Proc. of International Conference Mathematical Theory of Networks and Systems, MTNS 2000*, Perpignan, France, June 2000.
- B.30) F. Cuzzolin, R. Frezza, "Integrating feature spaces for object tracking", In *Proc. of International Conference Mathematical Theory of Networks and Systems, MTNS 2000*, Perpignan, France, June 2000.
- B.31) L. Panizza, R. Frezza, "Paths of bounded curvature with minimal number of maneuvers", To appear in *Proc. of IEEE Intelligent Vehicles Symposium, IV 2000*, Dearborn, MI, October 2000, pp. 204-209.
- B.32) D. Crovato, B. Ros, M. Filippini, M. Zampato, R. Frezza, "Segmentation of underwater images for AUV navigation", in *Proc. of IEEE International Conference on Control Applications CCA 2000*, Anchorage, Alaska, September 2000.
- B.33) F. Cuzzolin, R. Frezza, "Sequences of belief functions and model-based data association", in *Proc. of the IAPR workshop on Machine Vision Applications (MVA2000)*. Nov. 2000.
- B.34) R. Frezza, C. Altafini, "Autonomous landing by computer vision: an application of path following in SE(3)", invited paper in *Proc. of International Conference on Decision and Control CDC 2000*, Sidney, December 2000.
- B.35) F. Cuzzolin, R. Frezza. "Lattice structure of the families of compatible frames of discernment." 2nd International Symposium on Imprecise Probabilities and Their Applications, 2001.
- B.36) F. Cuzzolin, R. Frezza "Geometric analysis of belief space and conditional subspaces." 2nd International Symposium on Imprecise Probabilities and Their Applications, 2001.

- B.37) C. Altafini, R. Frezza, "Motion on constrained submanifolds for a kinematic control system evolving on a matrix Lie group", in *Proc. of IFAC-NOLCOS 2001*, 2001.
- B.38) N. Moretto, R. Frezza, "3D surface reconstruction by clouds of random particles." in *Proc. IEEE Int. Workshop on Digital Communications*, (vol. 1, pp. 191-197), 2002.
- B.39) G. Gennari, A. Chiuso, F. Cuzzolin, R. Frezza. "Integrating dynamic and probabilistic shape information for data association and tracking." in *Proc. of International Conference on Decision and Control CDC 2002*, 2002.
- B.40) F. Cuzzolin, A. Bissacco, R. Frezza, S. Soatto. "Towards unsupervised detection of actions in clutter." in *Proc. 2002 Asilomar Conference on Signals, Systems, and Computers*, 2002.
- B.41) N. Moretto, R. Frezza, "Volumetric reconstruction by random sampling." in *Proc. IEEE Conference on Decision and Control*, vol. 1, pp. 4896-4901, 2003.
- B.42) L. Poletto, A. Dalla Lana, R. Frezza, N. Moretto, G. Naletto, G. Tondello, "Ultra-high fast camera for motion recognition by tomographic techniques." in *Proc. SPIE Conference on High Speed and Ultra High Speed Photography, Photonics*. vol. 5210, pp. 1-6, 2003.
- B.43) R. Frezza, A. Saccon, D. Bacchet. "SmartDriver: A sensor based model of a car driver for virtual product development." in *Proc. IEEE/ASME International Conference on Advanced Intelligent Mechatronics, AIM2003*, vol. 1, pp. 366-370, 2003.
- B.44) F. Nori, R. Frezza "Accurate reconstruction of the path followed by a motorcycle from the on-board camera images", in *Proc. IEEE Intelligent Vehicles Symposium, IV 2003*, vol. 1, pp. 259-264, 2003.
- B.45) G. Guarneri, A. Vettore, R. Frezza. "A Bayesian Approach to Road Image Segmentation," in *Proc. ISPRS 4th International Symposium on Mobile Mapping Technology, MMT 2003*, Kunming, China, August 2003.
- B.46) R. Frezza, A. Saccon, D. Minen, C. Ortmann, "SmartDriver: a Research Project for Closed Loop Vehicle Simulation in MSC.Adams.", to appear in *Proc. 3rd International Symposium on Multi-body Dynamics: Monitoring & Simulation Techniques*, Loughborough, UK, July, 2004.
- B.47) F. Nori, R. Frezza, "Nonlinear Control by a Finite Set of Motion Primitives," to appear in *Proc. IFAC-NOLCOS conference*, Stuttgart, september, 2004.
- B.48) A. Saccon, R. Frezza, "Control of a Bicycle using Model Predictive Control Strategy," to appear in *Proc. IFAC-NOLCOS conference*, Stuttgart, september, 2004.

Tesi di Master e Dottorato

- C.1) R. Frezza "An efficient asymptotically optimal linear filter". *M.S. Thesis, University of California Davis, Department of Mathematics*, June 1987.
- C.2) R. Frezza "Modeling of Higher Order and Mixed Order Gaussian Reciprocal Processes with Application to the Smoothing Problem" *Ph.D. Dissertation University of California Davis Department of Mathematics*, June 1990.