

## References

- [1] Bloch, A.M.: *Nonholonomic Mechanics and Control. Interdisciplinary Applied Mathematics Series, vol. 24.* Springer, New York (2003).
- [2] Piernicola Bettoli, Piermarco Cannarsa, Giovanni Colombo, Monica Motta, Franco Rampazzo, *Analysis and Geometry in Control Theory and its Applications*, Springer INdAM Series (2015).
- [3] André, N., Carré, M., Pasquier, E.: *Metronomics: towards personalized chemotherapy?* Nat. Rev. Clin. Oncol. 11(7), (2014).
- [4] Balseiro, P., de León, M., Marrero, J.C., Martín de Diego, D.: *The ubiquity of the symplectic Hamiltonian equations in mechanics.* J. Geom. Mech. 1, (2009).
- [5] Barbero Liñan, M., de León, M., Marrero, J.C., Martín de Diego, D., Muñoz Lecanda, M.: *Kinematic reduction and the Hamilton-Jacobi equation.* J. Geom. Mech. 3, (2012).
- [6] Abraham, R. and J. E. Marsden [1978], *Foundations of Mechanics*, Addison-Wesley. Reprinted by Perseus Press (1995).
- [7] Bloch, A., Crouch, P.: *Nonholonomic and vakonomic control systems on Riemannian manifolds.* In: Enos, M.J. (ed.) *Dynamics and Control of Mechanical Systems. Fields Institute Communications*, vol. 1, AMS, Providence (1993).
- [8] Bloch, A., Crouch, P.: *Nonholonomic control systems on Riemannian manifolds.* SIAM J. Control Optim. (1995)
- [9] Bloch, A., Crouch, P.: *On the equivalence of higher order variational problems and optimal control problems.* In: *Proceedings of the IEEE International Conference on Decision and Control*, Kobe, (1996).
- [10] Bloch, A., Crouch, P.: *Optimal control, optimization, and analytical mechanics.* In: Baillieul, J., Willems, J.C. (eds.) *Mathematical Control Theory.* Springer, New York (1998).

- [11] Bloch, A., Hussein, I.: *Optimal control of underactuated nonholonomic mechanical systems*. IEEE Trans. Autom. Control 53, (2008)
- [12] Bloch, A., Marsden, J., Zenkov D.: Nonholonomic mechanics. Not. AMS 52, (2005).
- [13] Abraham, R., J. E. Marsden, and T. S. Ratiu , *Manifolds, Tensor Analysis, and Applications, Applied Mathematical Sciences*. Springer-Verlag (1988).
- [14] Aeyels, D. *Stabilization by smooth feedback of the angular velocity of a rigid body*, Systems Control Lett. 6, [1985],
- [15] Aeyels, D. [1989], *Stabilizability and asymptotic stabilizability of the angular velocity of a rigid body*, in *New trends in nonlinear control theory (Nantes, 1988)*, Springer, Berlin..
- [16] Agrachev, A. A. and D. Liberzon [2001], *Lie-algebraic stability criteria for switched systems*,SIAM J. Control Optim. (electronic).
- [17] Agrachev, A. A. and A. V. Sarychev [1996], *Abnormal sub-Riemannian geodesics: Morse index and rigidity*, Ann. Inst. H. Poincaré Anal. Non Linéaire.
- [18] Agrachev, A. A. and A. V. Sarychev [1998], *On abnormal extremals for Lagrange variational problems*, J. Math. Systems Estim. Control.
- [19] Anderson, I. and T. Duchamp [1980], *On the existence of global variational principles*,Amer. J. Math.
- [20] Antman, S. S. and J. E. Osborn [1979], *The principle of virtual work and integral laws of motion*, Arch. Rat. Mech. An.
- [21] Anthony Bloch, P. Crouch, J. Baillieul, J. Marsden. *Nonholonomic Mechanics and Control*, Springer Press,United Kingdom,2003.
- [22] Abraham, R. and J. E. Marsden [1978], *Foundations of Mechanics*, Addison-Wesley. Reprinted by Perseus Press, 1995.

- [23] Abraham, R., J. E. Marsden, and T. S. Ratiu [1988], *Manifolds, Tensor Analysis, and Applications*, Applied Mathematical Sciences, Springer-Verlag.
- [24] Aeyels, D. [1985], Stabilization by smooth feedback of the angular velocity of a rigid body, *Systems Control Lett.*
- [25] Aeyels, D. [1989], Stabilizability and asymptotic stabilizability of the angular velocity of a rigid body, in *New trends in nonlinear control theory (Nantes, 1988)*, Springer, Berlin.
- [26] Agrachev, A. A. and D. Liberzon [2001], Lie-algebraic stability criteria for switched systems, *SIAM J. Control Optim.*
- [27] Agrachev, A. A. and A. V. Sarychev [1998], *On abnormal extremals for Lagrange variational problems*, *J. Math. Systems Estim.*
- [28] Anderson, I. and T. Duchamp [1980], *On the existence of global variational principles*, *Amer. J. Math.*
- [29] Abraham, R. and J. E. Marsden [1978], *Foundations of Mechanics*, Addison-Wesley. Reprinted by Perseus Press, 1995.
- [30] Abraham, R., J. E. Marsden, and T. S. Ratiu [1988], *Manifolds, Tensor Analysis, and Applications*, Applied Mathematical Sciences. 75, Springer-Verlag.
- [31] Aeyels, D. [1985], *Stabilization by smooth feedback of the angular velocity of a rigid body*, *Systems Control Lett.* 6, 59–63.
- [32] Aeyels, D. [1989], *Stabilizability and asymptotic stabilizability of the angular velocity of a rigid body*, in *New trends in nonlinear control theory (Nantes, 1988)*, Springer.
- [33] Agrachev, A. A. and D. Liberzon [2001], *Lie-algebraic stability criteria for switched systems*, *SIAM J. Control Optim.* 40, (electronic).

- [34] Agrachev, A. A. and A. V. Sarychev [1996], *Abnormal sub-Riemannian geodesics: Morse index and rigidity*, Ann. Inst. H. Poincaré Anal. Non Linéaire 13.
- [34] Agrachev, A. A. and A. V. Sarychev [1998], *On abnormal extremals for Lagrange variational problems*, J. Math. Systems Estim. Control 8.
- [35] Anderson, I. and T. Duchamp [1980], *On the existence of global variational principles*, Amer. J. Math. 102.
- [36] Antman, S. S. [1998], The simple pendulum is not so simple, SIAM Rev 40. No. 4.
- [37] Antman, S. S. and J. E. Osborn [1979], *The principle of virtual work and integral laws of motion*, Arch. Rat. Mech. An. 69.
- [38] Arms, J.M. [1981], *The structure of the solution set for the Yang–Mills equations*, Math. Proc. Camb. Philos. Soc. 90.
- [39] Arms, J.M., J. E. Marsden, and V. Moncrief [1981], *Symmetry and bifurcations of momentum mappings*, Comm. Math. Phys., 78.
- [40] Arms, J. M., J. E. Marsden, and V. Moncrief [1982], *The structure of the space solutions of Einstein’s equations: II Several Killing fields and the Einstein–Yang–Mills equations*, Ann. of Phys., 144.
- [41] Arnold, V. I. [1966b], *On an a priori estimate in the theory of hydrodynamical stability*, Izv. Vyssh. Uchebn. Zaved. Mat. Nauk 54. English Translation: Amer. Math.
- [42] Arnold, V. I. [1983], *Geometrical Methods in the Theory of Ordinary Differential Equations*, Springer-Verlag.
- [43] Arnold, V. I. [1989], *Mathematical Methods of Classical Mechanics*, Second Edition, Springer-Verlag; First Edition 1978, Second Edition, 1989, Graduate Texts in Math, volume 60.

- [44] Arnold, V. I., V. V. Kozlov, and A. I. Neishtadt [1988], *Dynamical Systems III*, Springer- Verlag, Encyclopedia of Math., 3.
- [45] Astolfi, A. [1996], *Discontinuous control of nonholonomic systems*, Systems Control Lett.
- [46] Atiyah, M. [1982], *Convexity and commuting Hamiltonians*, Bull. London Math. Soc.
- [47] Auckly, D., L. Kapitanski, and W. White [2000], *Control of nonlinear underactuated systems*, Comm. Pure Appl.Math., 53, 354–369.
- [49] Auslander, L. and R. E. Mackenzie [1977], Introduction to Differentiable Manifolds, Dover Publications, New York.
- [50] Baillieul, J. [1975], Some Optimization Problems in Geometric Control Theory, Ph.D.thesis, Harvard University.
- [51] Baillieul, J. [1978], *Geometric methods for nonlinear optimal control problems of Optimization Theory and Applications*, 25.
- [52] Baillieul, J. [1987], *Equilibrium mechanics of rotating systems*, in Proceedings of the 26th IEEE Conf. Dec. and Control.
- [53] Baillieul, J. [1990], *The behavior of super-articulated mechanisms subject to periodic forcing*, in *Analysis of Controlled Dynamical Systems*, (Gauthier and Bride and Bonnard and Kupka, eds.), Birkhäuser.; Proceedings of a Conference held in Lyons, France, 1990.
- [54] Baillieul, J. [1993], *Stable average motions of mechanical systems subject to periodic forcing, dynamics and control of mechanical systems: in The Falling Cat and Related Problems* (Michael Enos, ed.) Fields Institute Communications, Am. Math. Soc. Providence.
- [55] Baillieul, J. [1995], *Energy methods for stability of bilinear systems with oscillatory inputs*, in International Journal of Robust and Nonlinear Control,

Special Issue on the Control of Mechanical Systems, (H. Nijmeijer and A. J. van der Schaft, guest eds).

- [56] Baillieul, J. [1998], *The geometry of controlled mechanical systems*, in Mathematical Control Theory, 322–354. Springer-Verlag, New York.
- [57] Baillieul, J. [2000], *Kinematic asymmetries and the control of Lagrangian systems with oscillatory inputs*, Proceedings of the IFAC Workshop on Lagrangian and Hamiltonian Methods for Nonlinear Control, Pergamon.
- [58] Baillieul, J. and J. C. Willems [1999] (eds.) *Mathematical control theory* (Dedicated to Roger Ware Brockett on the occasion of his 60th birthday), Springer-Verlag, N.Y.
- [59] Barbashin, E. and N. N. Krasovskii [1952], *Stability of motion in the large*, *Doklady Mathematics* (Translations of Proceedings of Russian Academy of Sciences).
- [60] Barnett, S. [1978], *Introduction to Mathematical Systems Theory*, Oxford University Press, U.K.
- [61] Bates, L. [2002], *Problems and progress in nonholonomic reduction*, Rep. Math. Phys. 49. XXXIII Symposium on Mathematical Physics (Tor\'un, 2001).
- [62] Bates, L. and R. Cushman [1999], *What is a completely integrable nonholonomic dynamical system?*, Rep. Math. Phys.
- [63] Bates, L. and J. Sniatycki [1993], *Nonholonomic Reduction*, Reports on Math. phys.
- [64] Bates, L. [1998], *Examples of singular nonholonomic reduction*, Reports in Mathematical Physics.
- [65] Bedrosian, N. S. [1992], *Approximate feedback linearization: the cart–pole example* in Proceedings 1992 IEEE International Conference on Robotics and Automation.