LISTE DES NOTATIONS

A	un anneau,
$\mathbb{K}$	un corps,
$\overline{\mathbb{K}}$	la clôture algébrique de $\mathbb{K}$,
$\mathbb{K}[\mathbf{x}] = \mathbb{K}[x_1, \ldots, x_n]$	l'anneau des polynômes à n variables $x_1, \ldots, x_n$ et à coefficients dans $\mathbb{K}$,
$\mathbb{K}[x]$	l'anneau des polynômes en la variable x,
$\mathbb{K}[x, y]$	l'anneau des polynômes en les variables x, y,
$\mathbb{K}[x, y, z]$	l'anneau des polynômes les variables x, y, z,
$\|F\|$	le cardinal d'un ensemble F,
(F)	l'idéal de $\mathbb{K}[\mathbf{x}]$ engendré par $F \subset \mathbb{K}[\mathbf{x}]$,
$\langle F \rangle$	l'espace vectoriel engendré par $F \subset \mathbb{K}[\mathbf{x}]$,
$\mathbf{x}^\alpha$	monôme $x_1^{\alpha_1} \ldots x_n^{\alpha_n}$ pour $\alpha = (\alpha_1, \ldots, \alpha_n) \in \mathbb{N}^n$,
$\|\alpha\| = \alpha_1 + \cdots + \alpha_n$	son degré,
$\alpha! = \alpha_1! \cdots \alpha_n!$	si $\alpha = (\alpha_1, \ldots, \alpha_n) \in \mathbb{N}^n$,
$\mathbf{x}^A$	l'ensemble des monômes $\mathbf{x}^\alpha$ pour $\alpha \in A \subset \mathbb{N}^n$,
$\deg f$	le degré de $f \in \mathbb{K}[\mathbf{x}]$,
$h^\top = h(0, x_1, \ldots, x_n)$	pour tout polynôme homogène $h \in \mathbb{K}[x_0, \ldots, x_n]$,
$t(f)$	la partie de plus haut degré de $f \in \mathbb{K}[x_1, \ldots, x_n]$,
$\mathbb{K}[f_1, \ldots, f_n]$	le sous-anneau de $\mathbb{K}[\mathbf{x}]$ engendré par $f_1, \ldots, f_n \in \mathbb{K}[\mathbf{x}]$,
$\mathbb{K}[\mathbf{x}]/I$	l'algèbre quotient de $\mathbb{K}[x]$ modulo l'idéal I,
$\mathbb{K}(\mathbf{x}) = \mathbb{K}(x_1, \ldots, x_n)$	le corps des fractions rationnelles en $x_1, \ldots, x_n$,
$(I : J)$	le transporteur de J dans I (I, J idéaux de $\mathbb{K}[\mathbf{x}]$),
$\mathrm{Ass}(I)$	l'ensemble des idéaux premiers associés à l'idéal I,
$\mathfrak{m}_\zeta$	l'idéal maximal $(x_1 - \zeta_1, \ldots, x_n - \zeta_n)$, pour $\zeta = (\zeta_1, \ldots, \zeta_n) \in \mathbb{K}^n$,
$\mathcal{I}(Y)$	l'idéal des polynômes de $\mathbb{K}[\mathbf{x}]$ qui s'annulent sur $Y \subset \mathbb{K}^n$,
$\mathtt{c}_<(f) = \mathtt{c}(f)$	le coefficient dominant de $f \in \mathbb{K}[\mathbf{x}]$, pour un ordre monomial $<$,
$\mathtt{m}_<(f) = \mathtt{m}(f)$	le monôme dominant de f,

$\mathtt{t}_<(f) = \mathtt{t}(f)$	le terme dominant de f,
$\mathtt{m}(I)$	l'ensemble $\{\mathtt{m}(f) : f \in I\}$ pour $I \subset \mathbb{K}[\mathbf{x}]$,
$\mathrm{Syz}(f_1, \ldots, f_s)$	le module $\{(g_1, \ldots, g_s) \in (\mathbb{K}[\mathbf{x}])^s : g_1 f_1 + \cdots + g_s f_s = 0\}$ pour $f_1, \ldots, f_s \in \mathbb{K}[\mathbf{x}]$,
$\mathcal{Z}_{\mathbb{K}}(I) = \mathcal{Z}(I)$	la variété algébrique définie par $I \subset \mathbb{K}[\mathbf{x}]$,
μ_ζ	la multiplicité de la racine $\zeta \in \mathcal{Z}(I)$,
$\dim_{\mathbb{K}} E$	la dimension du $\mathbb{K}$-espace vectoriel E,
$\widehat{E}$	le dual de E,
$E \cong F$	E et F sont deux espaces vectoriels isomorphes,
Tr	la trace d'un endomorphisme,
tr	la trace d'une matrice,
M_a	l'opérateur de multiplication par $a \in \mathcal{A}$ ($\mathbb{K}$-algèbre),
$\mathtt{M}_a$	la matrice de M_a dans une base de $\mathcal{A}$,
$\mathbb{I}_d$	la matrice identité de taille d,
$\mathrm{Res}_X(f_0, \ldots, f_n)$	le résultant sur X des polynômes $f_0, \ldots, f_n$.

BIBLIOGRAPHIE

[Abe73] O. Aberth. Iteration methods for finding all zeros of a polynomial simultaneously. *Mathematics of Computation*, 27, 1973.

[ABRW96] M.E. Alonso, E. Becker, M.F. Roy, and T. Wörmann. Zeros, multiplicities and idempotents for zero dimensional systems. In L. González-Vega and T. Recio, editors, *Algorithms in Algebraic Geometry and Applications*, volume 143 of *Prog. in Math.*, pages 1–15. Birkhäuser, Basel, 1996.

[AL94] W. Adams and P. Loustaunau. *An Introduction to Gröbner Bases*. AMS, Providence RI, 1994.

[AM69] M.F. Atiyah and I.G. MacDonald. *Introduction to Commutative Algebra*. Addison-Wesley, 1969.

[Amo90] F. Amoroso. Bounds for the degrees in the membership test for polynomial ideals. *Acta Arith.*, 56 :19–24, 1990.

[AVGZ86] V. Arnold, A. Varchenko, and S. M Gusein-Zade. *Singularités des applications différentiables*. Edition Mir, Moscou, 1986.

[BCR87] J. Bochnak, M. Coste, and M-F. Roy. *Géométrie algébrique réelle*. Springer-Verlag, 1987.

[BCRS96] E. Becker, J.P. Cardinal, M.F. Roy, and Z. Szafraniec. Multivariate Bezoutians, Kronecker symbol and Eisenbud-Levin formula. In L. González-Vega and T. Recio, editors, *Algorithms in Algebraic Geometry and Applications*, volume 143 of *Prog. in Math.*, pages 79–104. Birkhäuser, Basel, 1996.

[BCW82] H. Bass, F.H. Conell, and D. Wright. The Jacobian Conjecture : reduction of degree and formal expansion of the inverse. *Bull. Amer. Math. Soc.*, 7 :287–330, 1982.

[BEM00] L. Busé, M. Elkadi, and B. Mourrain. Generalized resultant over unirational algebraic varieties. *J. of Symb. Computation*, 29 :515–526, 2000.

[BEM01] L. Busé, M. Elkadi, and B. Mourrain. Resultant over the residual of a complete intersection. *J. of Pure and Applied Algebra*, 164 :35–57, 2001.

[Ber75] D.N. Bernstein. The number of roots of a system of equations. *Funct. Anal. and Appl.*, 9(2) :183–185, 1975.

[Béz79] E. Bézout. *Théorie Générale des Équations Algébriques.* Paris : Ph.-D. Pierres, 1779.

[BGVY93] C.A. Berenstein, R. Gay, A. Vidras, and A. Yger. *Residue Currents and Bezout Identities*, volume 114 of *Prog. in Math.* Birkhäuser, 1993.

[BGW88] C. Bajaj, T. Garrity, and J. Warren. On the applications of multi-equational resultants. Technical Report 826, Purdue Univ., 1988.

[BH98] J-Y. Boyer and M. Hickel. Une généralisation de la loi de transformation pour les résidus. *Bull. Soc. math. Fr.*, 125 :315–335, 1998.

[BH99] J-Y. Boyer and M. Hickel. Extension dans un cadre algébrique d'une formule de weil. *Manuscripta Mathematica*, 98(195-335), 1999.

[Bin96] D. Bini. Numerical computation of polynomial zeros by means of Aberth's method. *Numerical Algorithms*, 13, 1996.

[BM04] J. Briançon and Ph. Maisonobe. *Eléments d'algèbre commutative.* Ellipses-Marketing, Paris, 2004.

[BMB94] L.M. Balbes, S.W. Mascarella, and D.B. Boyd. A perspective of modern methods in computer-aided drug design. *Reviews in Computational Chemistry*, 5 :337–379, 1994.

[BMP98] D. Bondyfalat, B. Mourrain, and V. Y. Pan. Controlled iterative methods for solving polynomial systems. In O. Gloor, editor, *Proc. Intern. Symp. on Symbolic and Algebraic Computation*, pages 252–259. NewYork, ACM Press., 1998.

[BMP00] D. Bondyfalat, B. Mourrain, and V. Y. Pan. Computation of a specified root of a polynomials system of equations using eigenvectors. *Lin. Alg. and its Appl.*, 319 :193–209, 2000.

[BPR97] S. Basu, R. Pollack, and M.-F. Roy. Computing roadmaps of semi-algebraic sets on a variety. In F. Cucker and M. Shub, editors, *Proc. Workshop on Foundations of Computational Mathematics*, pages 1–15, Berlin, 1997. Springer-Verlag.

[BPR03] S. Basu, R. Pollack, and M.-F. Roy. *Algorithms in real algebraic geometry*, volume 10 of *Algorithms and Computation in Mathematics*. Springer-Verlag, Berlin, 2003.

[BR90] R. Benedetti and J-J. Risler. *Real algebraic and semi-algebraic sets*. Hermann, 1990.

[Bro87] W. D. Brownawell. Bounds for the degrees in the nullstellensatz. *Ann. Math.*, 126 :577–591, 1987.

[Bus01a] L. Busé. *Étude du résultant sur une variété algébrique*. Thèse de Doctorat, Université de Nice Sophia-Antipolis, 2001.

[Bus01b] L. Busé. Residual resultant over the projective plane and the implicitization problem. In *Proceedings of the 2001 International Symposium on Symbolic and Algebraic Computation*, pages 48–55 (electronic), New York, 2001. ACM.

[BWK93] T. Becker, V. Weispfenning, and H. Kredel. *Gröbner Bases. A Computational Approach to Commutative Algebra*, volume 141 of *Graduate Texts in Mathematics*. Springer-Verlag, Berlin, 1993.

[BY90] C. A. Berenstein and A. Yger. Bounds for the degrees in the division problem. *Mich. Math. J.*, 37 :25–43, 1990.

[BY91] C. A. Berenstein and A. Yger. Effective Bezout identities in $\mathbb{Q}[z_1, \ldots, z_n]$. *Acta. Math.*, 166 :69–120, 1991.

[BY99] C.A. Berenstein and A. Yger. Residue calculus and Effective Nullstellensatz. *Amer. J. Math.*, 121, 1999.

[Can88] J. Canny. *The Complexity of Robot Motion Planning.* M.I.T. Press, Cambridge, Mass., 1988.

[Can93] J. Canny. Improved algorithms for sign determination and existential quantifier elimination. *The Computer Journal*, 36(5) :409–418, 1993.

[Cay48] A. Cayley. On the theory of elimination. *Dublin Math. J.*, II :116–120, 1848.

[Cay65] A. Cayley. On the theory of elimination. *Cambridge & Dublin Math. J.*, III :210–270, 1865.

[CDS96] E. Cattani, A. Dickenstein, and B. Sturmfels. Computing multidimensional residues. In L. González-Vega and T. Recio, editors, *Algorithms in Algebraic Geometry and Applications*, volume 143 of *Prog. in Math.* Birkhäuser, Basel, 1996.

[CE93] J. Canny and I. Emiris. An efficient algorithm for the sparse mixed resultant. In G. Cohen, T. Mora, and O. Moreno, editors, *Proc. Intern. Symp. on Applied Algebra, Algebraic Algorithms and Error-Corr. Codes (Puerto Rico)*, volume 673 of *Lect. Notes in Comp. Science*, pages 89–104. Springer, 1993.

[CG05] G. Chèze and A. Galligo. Four lectures on polynomial absolute factorization. In *Solving polynomial equations*, volume 14 of *Algorithms Comput. Math.*, pages 339–392. Springer, Berlin, 2005.

[CGH88] L. Caniglia, A. Galligo, and J. Heintz. Borne simple exponentielle pour les degrés dans le théorème des zéros sur un corps de caractéristique quelconque. *C. R. Acad. Sci., Paris*, 307 :255–258, 1988.

[Cha93] M. Chardin. The resultant via a Koszul complex. In F. Eyssette and A. Galligo, editors, *Computational Algebraic Geometry*, volume 109 of *Prog. in Mathematics*, pages 29–39. Birkhäuser, Boston, 1993. (Proc. MEGA '92, Nice).

[CK92] J. Chadzynski and T. Krasinski. On the Lojasiewicz exponent at infinity for polynomial mappings of $\mathbb{C}^2$ into $\mathbb{C}^2$ and components of polynomial automorphisms of $\mathbb{C}^2$. *Ann. Pol. Math.*, 57 :291–302, 1992.

[CLO92] D. Cox, J. Little, and D. O'Shea. *Ideals, Varieties, and Algorithms : An Introduction to Computational Algebraic Geometry and Commutative Algebra*. Undergraduate Texts in Mathematics. Springer Verlag, New York, 1992.

[CLO97] D. Cox, J. Little, and D. O'Shea. *Using Algebraic Geometry.* Springer-Verlag, New York, 1997.

[CM93] J. F. Canny and D. Manocha. Multipolynomial resultant algorithms. *J. Symb. Comput.*, 15 :99–122, 1993.

[CP93] J. Canny and P. Pedersen. An algorithm for the Newton resultant. Technical Report 1394, Comp. Science Dept., Cornell University, 1993.

[DD00] C. D'Andrea and A. Dickenstein. Explicit formulas for the multivariate resultant, *. of Pure and Applied Algebra*, 162 :59–86, 2001.

[Dem87] M. Demazure. Le théorème de complexité de Mayr et Meyer. In *Géométrie et calcul algébrique*, volume 22 of *Trav. Cours*, pages 35–58, 1987.

[Dix08] A.L. Dixon. The eliminant of three quantics in two independent variables. *Proc. of Lond. Math. Society*, 6 :49–69, 473–492, 1908.

[Dur68] E. Durand. *Solution numérique des équations algébriques*, volume 1. Masson, 1968.

[EC95] I.Z. Emiris and J.F. Canny. Efficient incremental algorithms for the sparse resultant and the mixed volume. *J. Symb. Computation*, 20(2) :117–149, 1995.

[EHV92] D. Eisenbud, C. Huneke, and W. Vasconcelos. Direct methods for primary decomposition. *Invent. Math.*, 110 :207–235, 1992.

[Eis94] D. Eisenbud. *Commutative Algebra with a view toward Algebraic Geometry*, volume 150 of *Graduate Texts in Math.* Berlin, Springer-Verlag, 1994.

[EL99] L. Ein and R. Lazarsfeld. A geometric effective Nullstellensatz. *Invent. Math.*, 137(2) :427–448, 1999.

[Elk93] M. Elkadi. Bornes pour les degrés et les hauteurs dans le problème de division. *Mich. Math. J.*, 40 :609–618, 1993.

[Elk94] M. Elkadi Une version effective du théorème de Briançon-Skoda dans le cas algébrique discret. *Acta Arith.*, 66 :201–220, 1994.

[Ell03] E.B. Elliott. On linear homogeneous diophantine equations. *Quart. J. Pure Appl. Math.*, 34 :348–377, 1903.

[EM99a] M. Elkadi and B. Mourrain. A new algorithm for the geometric decomposition of a variety. In S. Dooley, editor, *Proc. Intern. Symp. on Symbolic and Algebraic Computation*, pages 9–16. ACM Press, New-York, 1999.

[EM99b] I.Z. Emiris and B. Mourrain. Computer algebra methods for studying and computing molecular conformations. *Algorithmica, Special Issue on Algorithms for Computational Biology*, 25 :372–402, 1999.

[Ems78] J. Emsalem. Géométrie des points épais. *Bull. Soc. Math. France*, 106 :399–416, 1978.

[Fau99] J.C. Faugère. A new efficient algorithm for computing Gröbner Basis (F4). *J. of Pure and Applied Algebra*, 139 :61–88, 1999.

[Fau02] J.-C. Faugère. A new efficient algorithm for computing gröbner bases without reduction to zero (F5). In *Proc. ISSAC*, 2002.

[FGLM93] J-C. Faugère, P. Gianni, D. Lazard, and T Mora. Efficient computation of zero-dimensional gröbner bases by change of ordering. *J. Symb. Comput.*, 16 :329–344, 1993.

[FGS93] N. Fitchas, M. Giusti, and M. Smietanski. Sur la complexité du théorème des zéros. In J. Gudatt, editor, *Proc. of the second. Int. Conf. on Approximation and Optimization*, Peter Lang Verlag, pages 274–329, La Habana, 1993.

[FJ03] J.-C. Faugère and A. Joux. Algebraic cryptanalysis of hidden field equation (HFE) cryptosystems using Gröbner bases. In *Advances in cryptology—CRYPTO 2003*, volume 2729 of *Lecture Notes in Comput. Sci.*, pages 44–60. Springer, Berlin, 2003.

[FK99] J.-C. Faugère and I. Kotsireas. Symmetry theorems for the Newtonian 4- and 5-body problems with equal masses. In *Computer algebra in scientific computing—CASC'99 (Munich)*, pages 81–92. Springer, Berlin, 1999.

[FMR98] J.-C. Faugère, F. Moreau de Saint-Martin, and F. Rouillier. Design of regular nonseparable bidimensional wavelets using Gröbner basis techniques. *IEEE Trans. Signal Process.*, 46(4) :845–856, 1998.

[Fuh96] P.A. Fuhrmann. *A polynomial approach to linear algebra.* Springer-Verlag, 1996.

[Ful93] W. Fulton. *Introduction to Toric Varieties.* Number 131 in Annals of Mathematics. Princeton University Press, Princeton, 1993.

[GCL92] K.O. Geddes, S.R. Czapor, and G. Labahn. *Algorithms for Computer Algebra.* Kluwer Academic Publishers, Norwell, Massachusetts, 1992.

[GH78] Ph. Griffiths and J. Harris. *Principles of Algebraic Geometry.* Wiley Interscience, New York, 1978.

[GKZ94] I.M. Gelfand, M.M. Kapranov, and A.V. Zelevinsky. *Discriminants, Resultants and Multidimensional Determinants.* Boston, Birkhäuser, 1994.

[GLGV98] M-J. González-López and L. González-Vega. Newton identities in the multivariate case : Pham systems. In B Buchberger and Winkler F., editors, *Gröbner Bases and Applications*, volume 251, pages 351–366. Cambridge University Press, 1998.

[GPS] G.-M. Greuel, G. Pfister, and H. Schoenemann. Singular, a computer algebra system for polynomial computations. Available at `http ://www.singular.uni-kl.de/team.html`.

[Grö70] W. Gröbner. *Algebrische Geometrie II*, volume 737 of *Bib. Inst. Mannheim.* Hochschultaschenbücher, 1970.

[GS] D. R. Grayson and M. E. Stillman. Macaulay 2, a software system for research in algebraic geometry. Available at `http ://www.math.uiuc.edu/Macaulay2`.

[GTZ88] P. Gianni, B. Trager, and G. Zacharias. Groebner bases and primary decomposition of polynomial ideals. *J. Symb. Comput*, 6 :149–167, 1988.

[GVL93] L. González-Vega and H. Lombardi. A real Nullstellensatz and Positivstellensatz for the semipolynomials over an ordered field. *J. Pure Appl. Algebra*, 90(2) :167–188, 1993.

[GVL96] G. H. Golub and C. F. Van Loan. *Matrix computations.* Johns Hopkins Studies in the Mathematical Sciences. Johns Hopkins University Press, Baltimore, MD, third edition, 1996.

[GVRR97] L. Gonzalez-Vega, F. Rouillier, and M.F. Roy. *Symbolic Recipes for Polynomial System Solving.* Some Tapas of Computer Algebra. Springer, 1997.

[Har77] R. Hartshorne. *Algebraic Geometry.* Springer-Verlag, 1977.

[Har92] J. Harris. *Algebraic Geometry, a first course*, volume 133 of *Graduate Texts in Math.* New-York, Springer-Verlag, 1992.

[Hic00] M. Hickel. Une remarque sur le jacobien. Preprint, 2000.

[Hil93] D. Hilbert. *Theory of algebraic invariant.* Cambridge mathematical library. Cambridge University Press, réédit. 1993.

[Hof89] C.M. Hoffmann. *Geometric and Solid Modeling.* Morgan Kaufmann, 1989.

[Hur95] A. Hurwitz. Uber die Bedingungen, unter welchen eine Gleichung nur Wurzeln mit negativen reellen Teilen besitzt. (On the conditions under which an equation has only roots with negative real parts). *Math. Ann.*, 46 :273–284, 1895.

[Jel93] Z. Jelonek. The set of points at which a polynomial map is not proper. *Ann. Pol. Math*, 58 :259–266, 1993.

[Jou91] J.P. Jouanolou. Le formalisme du résultant. *Adv. in Math.*, 90(2) :117–263, 1991.

[Jou93a] J.P. Jouanolou. Formes d'inertie et Résultants : Un formulaire. Prépublication de l'IRMA (Strasbourg), 1993.

[Jou93b] J.P. Jouanolou. Résultant anisotrope, compléments et applications. Prépublication de l'IRMA (Strasbourg), 1993.

[Ker66] I. Kerner. Ein Gesamtschrittverfahrenzur Berechnung der Nullstellen von Polynomen. *Numer. Math.*, 8 :290–294, 1966.

[Kho78] A.G. Khovanskii. Newton polyhedra and the genus of complete intersections. *Funktsional'nyi Analiz i Ego Prilozheniya*, 12(1) :51–61, Jan.–Mar. 1978.

[KL99] I. Kotsireas and D. Lazard. Central configurations of the 5-body problem with equal masses in three-dimensional space. *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)*, 258(Teor. Predst. Din. Sist. Komb. i Algoritm. Metody. 4) :292–317, 360–361, 1999.

[Kli72] M. Kline. *Mathematical Thought from Ancient to Modern Times*, volume xvi. New York Oxford University Press, 1972.

[Kol88] J. Kollár. Sharp effective Nullstellensatz. *J. Amer. Math. Soc.*, 1 :963–975, 1988.

[Kol99] J. Kollár. Real algebraic threefolds. II. Minimal model program. *J. Amer. Math. Soc.*, 12(1) :33–83, 1999.

[KP96] T. Krick and L.M. Pardo. A computational method for diophatine approximation. In L. González-Vega and T. Recio, editors, *Algorithms in Algebraic Geometry and Applications*, volume 143 of *Prog. in Math.*, pages 193–254. Birkhäuser, Basel, 1996.

[KPS01] T. Krick, L. M. Pardo, and M. Sombra. Sharp estimates for the arithmetic Nullstellensatz. *Duke Math. J.*, 109(3) :521–598, 2001.

[Kun86] E. Kunz. *Kähler differentials*. Advanced lectures in Mathematics. Friedr. Vieweg and Sohn, 1986.

[Kus75] A.G. Kushnirenko. The Newton polyhedron and the number of solutions of a system of k equations in k unknowns. *Uspekhi Matem. Nauk.*, 30 :266–267, 1975.

[Kyt88] A.M. Kytmanov. A transformation formula for grothendieck residues and some of its applications. *ib. Math. J.*, 29 :495–499, 1988.

[Lan80] S. Lang. *Algebra*. Addison-Wesley, 1980.

[Las01] A. Lascoux. Note on interpolation in one and several variables. `http://schubert.univ-mlv.fr/~al/`, 2001.

[Laz81] D. Lazard. Résolution des systèmes d'équations algébriques. *Theo. Comp. Science*, 15 :77–110, 1981.

[Laz93] D. Lazard. Generalized Stewart platform : How to compute with rigid motions ? In *IMACS -SC'93*, 1993.

[Lip87] J. Lipman. *Residues and traces of differential forms via Hoschild homologie*, volume 61 of *Cont. Math.* AMS, Providence, 1987.

[Lom91] H. Lombardi. Effective real Nullstellensatz and variants. In *Effective methods in algebraic geometry (Castiglioncello, 1990)*, volume 94 of *Progr. Math.*, pages 263–288. Birkhäuser Boston, Boston, MA, 1991.

[Mac02] F.S. Macaulay. Some formulae in elimination. *Proc. London Math. Soc.*, 1(33) :3–27, 1902.

[Mac16] F.S. Macaulay. *The Algebraic Theory of Modular Systems.* Cambridge Univ. Press, 1916.

[Mai94] Ph. Maisonobe. $\mathcal{D}$-modules : an overview towards effectivity. In E. Tournier, editor, *Computer Algebra and Differential Equations*, pages 21–55. Cambridge Univ. Press, 1994.

[Mal85] M.-P. Malliavin. *Algèbre commutative.* Collection Maîtrise de Mathématiques Pures. Masson, Paris, 1985.

[Mat80] H. Matsumura. *Commutative Algebra.* Mathematics Lecture Notes Series. The Benjamin/Cummings Publishing Company, 1980.

[MC27] F. Morley and A.B. Coble. New results in elimination. *American J. Math.*, 49 :463–488, 1927.

[MD95] D. Manocha and J. Demmel. Algorithms for intersecting parametric and algebraic curves II : Multiple intersections. *Graphical Models and Image Proc.*, 57(2) :81–100, 1995.

[MM82] E. Mayr and A. Meyer. The complexity of the word problems for commutative semigroups and polynomial ideals. *Adv. Math.*, 46 :305–329, 1982.

[MMM95] M.G Marinari, T. Mora, and H.M. Möller. Grobner duality and multiplicities in polynomial system solving. In A.H.M. Levelt, editor, *ISSAC'95*, pages 167–179. ACM Press, 1995.

[Mon02] C. Monico. Computing the primary decomposition of zero-dimensional ideals. *J. Symb. Comput.*, 34(5) :451–459, 2002.

[Mou93] B. Mourrain. The 40 generic positions of a parallel robot. In M. Bronstein, editor, *Proc. Intern. Symp. on Symbolic and Algebraic Computation*, ACM press, pages 173–182, Kiev (Ukraine), July 1993.

[Mou96] B. Mourrain. Enumeration problems in Geometry, Robotics and Vision. In L. González and T. Recio, editors, *Algorithms in Algebraic Geometry and Applications*, volume 143 of *Prog. in Math.*, pages 285–306. Birkhäuser, Basel, 1996.

[MP98] B. Mourrain and V. Y. Pan. Asymptotic acceleration of solving multivariate polynomial systems of equations. In *Proc. STOC*, pages 488–496. ACM Press., 1998.

[MP00] B. Mourrain and V. Y. Pan. Multivariate polynomials, duality and structured matrices. *J. of Complexity*, 16(1) :110–180, 2000.

[MPR03] B. Mourrain, Y. V. Pan, and O. Ruatta. Accelerated solution of multivariate polynomial systems of equations. *SIAM J. Comput.*, 32(2) :435–454, 2003.

[MR02] B. Mourrain and O. Ruatta. Relation between roots and coefficients, interpolation and application to system solving. *J. of Symb. Computation*, 33(5) :679–699, 2002.

[Net00] E. Netto. *Vorlesungen über Algebra*. Leipzig, Teubner, 1900.

[Ped96] P. S. Pedersen. A Basis for Polynomial Solutions to Systems of Linear Constant Coefficient PDE's. *Adv. In Math.*, 117 :157–163, 1996.

[Phi91] P. Philippon. Dénominateurs dans le théorème des zéros de Hilbert. *Acta Arith.*, 58 :1–25, 1991.

[Plo85] A. Ploski. In the growth of proper polynomial mappings. *Ann. Pol. Math.*, 45 :297–309, 1985.

[Plo86] A. Ploski. Algebraic dependence and polynomial automorphisms. *Bull. Pol. Acad. Sci. Math.*, 34 :653–659, 1986.

[PRS93] P. S. Pedersen, M.-F. Roy, and A. Szpirglas. Counting Real Zeros in the multivariate Case. In A. Galligo and F. Eyssette, editors, *Effective Methods in Algebraic Geometry (MEGA'92)*, Progress in Math., pages 203–223, Nice (France), 1993. Birkhäuser.

[PT96] A. Ploski and P. Tworzewski. A separation condition for polynomial mappings. *Bull. Pol. Acad. Sci. Math.*, 44 :327–331, 1996.

[Ren92] J. Renegar. On the computational complexity and geometry of the first order theory of reals (I, II, III). *J. Symb. Computation*, 13(3) :255–352, 1992.

[Rob86] L. Robbiano. On the theory of graded structures. *J. Symb. Comp. 2*, pages 139–170, 1986.

[Rob00] L. Robbiano. Computing ideals of points. *J. Symb. Comp*, 30 :341–356, 2000.

[Rou95] F. Rouillier. Real root counting for some robotics problems. In *Computational kinematics '95 (Sophia Antipolis, 1995)*, volume 40 of *Solid Mech. Appl.*, pages 73–82. Kluwer Acad. Publ., Dordrecht, 1995.

[Rou96] F. Rouillier. *Algorithmes efficaces pour l'étude des zéros réels des systèmes polynomiaux.* Thèse de Doctorat, Université de Rennes, 1996.

[Rou99] F. Rouillier. Solving zero-dimensional systems through the rational univariate representation. *Appl. Algebra Engrg. Comm. Comput.*, 9(5) :433–461, 1999.

[RR95] M. Raghavan and B. Roth. Solving polynomial systems for the the kinematic analysis of mechanisms and robot manipulators. *ASME J. of Mechanical Design*, 117(2) :71–79, 1995.

[Rua01] O. Ruatta. A multivariate Weierstrass iterative rootfinder. In B. Mourrain, editor, *Proc. Annual ACM Intern. Symp. on Symbolic and Algebraic Computation*, pages 276–283, London, Ontario, 2001. New-York, ACM Press.

[Sha74] I.R. Shafarevitch. *Basic Algebraic Geometry.* New-York, Springer-Verlag, 1974.

[Spo89] S. Spodzieja. On some property of a homogeneous polynomial mapping. *Bull. de la Soc. des Sciences et des Lettres de Lódz*, 59(5) :1–5, 1989.

[SS75] G. Scheja and U. Storch. Über Spurfunktionen bei vollständigen Durschnitten. *J. Reine Angew Mathematik*, 278 :174–190, 1975.

[SS95] J. Sabia and P. Solerno. Bounds for traces in complete intersections and degrees in the Nullstellenstaz. *AAECC-6*, 948 :353–376, 1995.

[Stu93] B. Sturmfels. Sparse elimination theory. In D. Eisenbud and L. Robbiano, editors, *Proc. Computat. Algebraic Geom. and Commut. Algebra 1991*, pages 264–298, Cortona, Italy, 1993. Cambridge Univ. Press.

[Syl53] J.J. Sylvester. On a theory of syzygetic relations of two rational integral functions, comprising an application to the theory of Sturm's functions, and that of the greatest algebraic common measure. *Philosophical Trans.*, 143 :407–548, 1853.

[Tré02] Ph. Trébuchet. *Vers une résolution stable et rapide des équations algébriques.* Thèse de Doctorat, Université Pierre et Marie Curie, 2002.

[Vas98] W.V. Vasconcelos. *Computational Methods in Commutative Algebra and Algebraic Geometry*, volume 2 of *Algorithms and Computation in Mathematics*. Springer-Verlag, 1998.

[vdW50] B.L. van der Waerden. *Modern Algebra.* F. Ungar Publishing Co., New York, 3rd edition, 1950.

[Wei03] K. Weierstrass. Neuer Beweis des Satzes, dass Jede Ganze Rationale Function einer Veränderlichen Dargestellt werden kann als ein Product aus Linearen Functionen derselben Veränderlichen. *Mathematische Werke*, 1903. Tome 3.

[Wil65] J. Wilkinson. *The Algebraic Eigenvalue Problem.* Oxford Univ. Press, London, 1965.

[Yuz84] A.P. Yuzhakov. On the computation of the complete sum of residues relative to a polynomial mapping in $\mathbb{C}^n$. *Sov. Math., Dokl.*, 29 :321–324, 1984.

INDEX