PUBLICATIONS (COMPLETE LIST CHRONOLOGICALLY)

Victor y. Pan

LISTS OF PAN’S PUBLICATIONS IN GOOGLE SCHOLAR AND DBLP INCLUDE

- 4 research monographs
- over 20 book chapters and survey articles
- over 170 refereed publications in journals
- over 80 refereed publications in conference proceedings
- OVER 11,000 CITATIONS

1 CLASSIFICATION BY RESEARCH SUBJECTS

ENUMERATION BELOW IS ACCORDING TO THE ORDER OF (i) THE BOOKS, (ii) SURVEYS AND BOOKS CHAPTERS AND (iii) RESEARCH PAPERS IN THE COMPLETE PUBLICATION LIST.

1. REAL AND COMPLEX FUNCTIONS: papers 1, 3.

2. ECONOMICS: papers 11-13, 15-18

3. LOWER BOUNDS IN ALGEBRAIC COMPUTATIONS: papers 5, 7, 10, 29, 49.

4. FUNDAMENTAL POLYNOMIAL OPERATIONS.
   a) EVALUATION: survey paper 1 (containing also research results), research papers 2, 4, 6-10, 19, 62, 70, 101, 105, 121, 140, 148, 166, 247-249, 253, 263, 267.
   b) INTERPOLATION: papers 62, 70, 105, 120, 140, 148, 159, 166, 247-249, 253, 263, 267 and survey paper 12.
   c) MULTIPLICATION: papers 24, 118 (multivariate case), 249, 263.
   d) DIVISION: papers 42, 48, 51-53, 58, 75, 86, 97, 103, 111, 249, 263.

5. MATH PROGRAMMING.
   a) LINEAR PROGRAMMING: papers 13, 38, 39, 43, 50, 55, 57.
   b) INTEGER LINEAR PROGRAMMING: papers 89, 93, 113, 152.
   c) NONLINEAR PROGRAMMING: paper 79.

6. FAST MATRIX MULTIPLICATION: book 1, survey papers 2 and 24, and papers 14, 20, 21, 23, 25, 30, 32, 33, 36, 37, 40, 95, 145, 157, 163, 222.

7. MULTIGRID ALGORITHMS.
   a) ALGEBRAIC MULTIGRID: paper 22.
   b) COMPACT MULTIGRID: papers 73, 77, 93, 109.

8. PARALLEL COMPUTATIONS (ALSO SEE RELEVANT ITEMS IN PARTS 9-14).
a) PROCESSOR EFFICIENT ALGORITHMS IN NC: book 2 (chapter 4) and papers 44-47, 50-58, 60-64, 66-69, 72, 74, 75, 80-82, 85, 88, 90, 93, 100, 102, 103, 106, 107, 111, 112, 115, 117, 119, 123, 125, 126, 129, 131-133, 138, 147, 163, 175.

b) NC EQUIVALENCE OF LINEAR PROGRAMMING AND EUCLIDEAN GCD: papers 89, 113, 152.

c) WORK-PRESERVING SPEED-UP: papers 91, 115, 122.

9. GRAPH ALGORITHMS.

a) MATCHING: papers 45, 63.

b) PATHS: item 6 in the list of book chapters; papers 54, 56, 66, 85, 90, 91, 122, 138, 147.

10. LINEAR SYSTEMS OF EQUATIONS AND MATRIX INVERSION (GENERAL INPUT MATRICES).

a) NEWTON’S ITERATION AND RESIDUAL CORRECTION PROCESSES: book 3 (chapter 6), item 9 in the list of reviews and book chapters, and papers 44, 69, 83, 175, 178, 211, 216, 226, 231, 251, 268.

b) RANDOMIZED ALGORITHMS: see section 18.

c) PARALLEL ALGORITHMS: book 2 and papers 44, 47, 60, 67, 74, 81, 82, 91, 122, 175, 238.

11. LINEAR SYSTEMS OF EQUATIONS, MATRIX INVERSION (TRIANGULAR, BANDED OR SPARSE INPUT), AND LOW RANK APPROXIMATION OF MATRICES: item 6 in the list of reviews and book chapters and papers 44, 107, 115, 117, 125, 272, 273.

12. LINEAR SYSTEMS OF EQUATIONS AND MATRIX INVERSION (STRUCTURED INPUT).

a) DISPLACEMENT TRANSFORMATION OF MATRIX STRUCTURE; APPLICATIONS TO POLYNOMIAL EVALUATION AND INTERPOLATION: book 3 and papers 71, 76, 140, 150, 156, 203, 248, 253, 259, 267.

b) NEWTON’S ITERATION AND RESIDUAL CORRECTION PROCESSES: book 3 (chapter 6), item 9 in the list of reviews and book chapters and papers 72, 83, 88, 93, 106, 132, 141, 178, 179, 187, 200, 201, 204, 211, 216, 229, 231, 251.


d) HOMOTOPIC/CONTINUATION TECHNIQUES: book 3 (chapter 6) and papers 93, 106, 178, 187, 200, 201, 211, 216, 231.

e) INVERSION OF DISPLACEMENT OPERATORS: book 3 and paper 194.

f) SOLUTION WITH LIFTING TECHNIQUES: papers 192, 226, 238.

g) SOLUTION WITH PRECONDITIONED CONJUGATE GRADIENT METHOD: papers 94, 128.

h) UNIFICATION OF SUPERFAST ALGORITHMS: book 3 and papers 71, 76, 150, 156, 159, 168.

i) OTHER METHODS: books 2 and 3 and papers 60, 62, 72, 74, 81, 102, 131-133, 168, 248, 249, 263.

j) APPLICATIONS TO POLYNOMIAL GCD AND RATIONAL INTERPOLATION: papers 133, 149, 159, 166, 195, 267.

k) NORM ESTIMATION: papers 254, 259.


14. ROOT-FINDING FOR POLYNOMIALS.

a) BOOK 4 and items 8, 10, 13, 18 and 22 in the list of survey articles and book chapters.


c) OTHER NEARLY OPTIMAL ALGORITHMS: papers: 68, 80, 153, 169, 246, 250, 258, 262, 264, 269, 270, 274.

e) REAL POLYNOMIAL ROOT-FINDERS: papers 68, 80, 153, 213, 235, 246, 252, 258, 261.


h) APPLICATION TO APPROXIMATE POLYNOMIAL GCD: papers 149, 182.

15. ROOT-FINDING FOR SYSTEMS OF POLYNOMIALS: papers 136, 137, 139, 144, 151, 155, 170, 176, 185, 189, 193, 197, 208.


17. SYMBOLIC-NUMERICAL COMPUTATIONS (ALSO SEE PARTS 8, 12-15, and 19).
   a) BOOKS AND SURVEYS: books 2 and 3 and 4, 5, 8-14, 16-18 and 22 in the list of SURVEY ARTICLES AND BOOK CHAPTERS.
   b) APPROXIMATE POLYNOMIAL GCD: papers 149, 182.
   c) NUMERICAL COMPUTATION OF DETERMINANTS: papers 160, 180, 221.
   d) RECOVERY OF A RATIONAL NUMBER FROM ITS NUMERICAL APPROXIMATION: paper 199.
   e) NUMERICAL COMPUTATIONS WITH ERROR-FREE OUTPUT: papers 154, 224.


21. MANIPULATION WITH INTEGERS:
   (a) BINARY SEGMENTATION: book 1, papers 87, 158, 224.
   (b) RATIONAL RECONSTRUCTION, EUCLIDEAN ALGORITHM: papers 190, 196, 199.

22. LINEAR RECURRENCES: papers 142, 172.

2 BOOKS


3 CHAPTERS IN BOOKS AND SURVEY ARTICLES, including prefaces to Special Issues (items 1, 2, 3, 4-6, 8, 9 and 17 included new research results)


4 RESEARCH PAPERS (in journals and refereed proceedings of conferences)


55. "Fast and Efficient Linear Programming and Linear Least-Squares Computations" (by V. Y. Pan and J. Reif), Computers and Mathematics (with Applications), 12A, 12, 1217–1227 (1986).


101. "The Power of Combining the Techniques of Algebraic and Numerical Computing: Improved Approximate Multipoint Polynomial Evaluation and Improved Multipole Algorithms" (by V. Y. Pan,


221. “Schur Aggregation for Linear Systems and Determinants” (by V. Y. Pan, D. Grady, B. Murphy, G. Qian, R. E. Rosholt, and A. Ruslanov), Theoretical Computer Science, Special Issue on


272. “Sublinear Cost Low Rank Approximation via Subspace Sampling” (by V. Y. Pan, Q.
273. “CUR LRA at Sublinear Cost Based on Volume Maximization” (by Q. Luan, V. Y. Pan), LNCS 11989, In Book: Mathematical Aspects of Computer and Information Sciences (MACIS 2019), D. Salmanig et al (Eds.), Springer Nature Switzerland AG 2020, Chapter No: 10, pages 1– 17, Chapter DOI:10.1007/978-3-030-43120-4_10


https://doi.org/10.1145/3373207.3403979

https://doi.org/10.1007/978-3-030-60026-6_27

https://doi.org/10.1007/978-3-030-60026-6_25