Algèbre linéaire et multilinéaire, théorie des matrices

tial proportion of the book covers topics that have not appeared in book form before, and as such it provides an accessible introduction to the research literature and to important open questions in modern algebraic graph theory.

V. LAKSHMIBAI, N. GONCIULEA. — **Flag varieties.** — Actualités mathématiques. — Un vol. broché, 17×24, de 332 p. — ISBN 2-7056-6389-4. — Prix: FF 220.00. — Hermann, Paris, 2001.

Flag varieties constitute an important class of homogeneous spaces. Because of their rich geometry and combinatorics, they represent fundamental objects in the areas of algebraic geometry, algebraic groups and representation theory. This book provides an introduction to the subject, and presents the interplay of flag varieties among geometry, combinatorics and representation theory. The central theme of this book is the theory of Schubert varieties – their geometric properties, ideal theory, singularity theory. This book also presents the relationship between Schubert varieties and certain affine varieties – classical determinantal varieties, ladder determinantal varieties, quiver varieties, varieties of complexes, certain affine toric varieties.

Silvio LEVY, (Editor). — **The eightfold way: the beauty of Klein's quartic curve.** — Mathematical Sciences Research Institute Publications, vol. 35. — Un vol. broché, 16×23,5, de X, 331 p. — ISBN 0-521-00419-5 (relié: 0-521-66066-1). — Prix: £19.95 (relié: £40.00). — Cambridge University Press, Cambridge, 2001.

The German mathematician Felix Klein discovered in the 1870s that the surface that we now call the Klein quartic has many remarkable properties, including an incredible 336-fold symmetry, the maximum possible degree of symmetry for any surface of its type. Since then, mathematicians have discovered that the same object comes up in different guises in many areas of mathematics, from complex analysis and geometry to number theory. This volume seeks to explore the rich tangle of properties and theories surrounding this multiform object. It includes expository and research articles by renowned mathematicians in different fields. It also includes a beautifully illustrated essay by the mathematical sculptor Helaman Ferguson, who distilled some of the beauty and remarkable properties of this surface into a sculpture entitled 'The Eightfold Way'. The book closes with the first English translation of Klein's seminal article on this surface.

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Pertti LOUNESTO. — **Clifford algebras and spinors.** — Second edition. — London Mathematical Society lecture note series, vol. 286. — Un vol. broché, 15,5×23, de IX, 338 p. — ISBN 0-521-00551-5. — Prix: £29.95. — Cambridge University Press, Cambridge, 2001.

In this book, the author offers a unique introduction to Clifford algebras and spinors. The initial chapters could be read by undergraduates; vectors, complex numbers and quaternions are introduced with an eye on Clifford algebras. The next chapters will also interest physicists, and include treatments of the quantum mechanics of the electron, electromagnetism and special relativity with a flavour of Clifford algebras. This book also gives the first comprehensive survey of recent research on Clifford algebras. A new classification of spinors is introduced, based on bilinear covariants of physical observables. This reveals a new class of spinors, residing between the Weyl, Majorana and Dirac spinors. Scalar products of spinors are classified by involutory anti-automorphisms of Clifford algebras. This leads to the chessboard of automorphism groups of scalar products of spinors.