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## *Géométrie différentielle*

Alfred GRAY. — **Modern differential geometry of curves and surfaces with Mathematica®**. — Second edition. — Studies in advanced mathematics. — Un vol. relié, 19×26, de XXIV, 1053 p. — ISBN 0-8493-7164-3. — Prix: DM 177.00. — CRC Press, Boca Raton, Florida, distributed by Springer-Verlag, Berlin, 1998.

With this textbook the reader will learn to reproduce and study interesting curves and surfaces – many more than are included in typical texts – using computer methods. By plotting geometric objects and studying the printed result, readers can understand concepts geometrically and see the effect of changes in parameters. The new edition features 300 Mathematica® programs and more than 300 exercises to demonstrate concepts introduced in the book. It also adds eight new chapters on global curve theory, space curves, minimal surfaces, inversions, cyclides, the Gauss-Bonnet theorem, and global surface theory, with routines for displaying curves and surfaces using Geomview and Acrospin. The text presents many historical footnotes with portraits of mathematicians.

Frank MORGAN. — **Riemannian geometry: a beginner's guide**. — 2<sup>nd</sup> ed. — Un vol. relié, 16×23,5, de x, 156 p. — ISBN 1-56881-073-3. — Prix: US\$ 34.00. — A.K. Peters, Wellesley, Mass., 1998.

The author establishes the basic material early to describe the most important geometric features of curved objects from the plebeian racetrack to the grand structure of the universe. In his short text, he then moves rapidly to address more complex topics like hyperbolic geometry and the Gauss-Bonnet theorem. This second edition contains a wealth of examples and exercises and includes new material on subjects ranging from isoperimetric problems to Einstein's original paper on general relativity. It concludes with a discussion of global geometry and current research (some by undergraduates) on energy minimizing curves and more.

## *Topologie des variétés, analyse globale et analyse des variétés*

Robert FRIEDMAN, John W. MORGAN, (Editors). — **Gauge theory and the topology of four-manifolds**. — IAS/Park City mathematics series, vol. 4. — Un vol. relié, 18,5×26,5, de x, 221 p. — ISBN 0-8218-0591-6. — Prix: £28.00. — American Mathematical Society, Providence R.I., distributed by Oxford University Press, Oxford, 1998.

David Gieseker: Geometric invariant theory and the moduli of bundles. — Jun Li: Anti-self-dual connections and stable vector bundles. — John W. Morgan: An introduction to Gauge theory. — Ronald J. Stern: Computing Donaldson invariants. — Clifford H. Taubes and James A. Bryan: Donaldson-Floer theory.

P.R. MISRA, M. RAJAGOPALAN, (Editors). — **Proceedings of the Tennessee Topology Conference**. — Tennessee State University, June 10 and 11, 1996. — Un vol. relié, 16×23, de x, 224 p. — ISBN 981-02-3291-8. — Prix: £47.00. — World Scientific, Singapore, 1997.

There were five major speakers at the conference: Melvin Henriksen: Separate vs. joint continuity: a tale of four topologies. — I. Juhász: Cardinal functions on subspaces and continuous images. — K.D. Magill, Jr.: A survey of topological nearrings and nearrings of continuous functions. — Peter Nyikos: Topologies on trees. — K. Sundaresan: Backward shifts on function spaces. Keeping applications of topology in mind special sessions in the areas of asymmetric topologies and semigroup theory were organized. All the papers contained in the proceedings have been refereed.