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Elimination and Expansion in Automated Geometric Theorem Proving -- The Nonsolvability by Radicals of Generic 3-connected Planar Graphs -- Function-Based Shape Modeling: Mathematical Framework and Specialized Language -- C 1 Spline Implicitization of Planar Curves -- Analysis of Geometrical Theorems in Coordinate-Free Form by Using Anticommutative Gröbner Bases Method -- GEOTHER 1.1: Handling and Proving Geometric Theorems Automatically -- Distance Coordinates Used in Geometric Constraint Solving.

| Sommario/riassunto | This book constitutes the thoroughly refereed post-proceedings of the 4th International Workshop on Automated Deduction in Geometry, ADG 2002, held at Hagenberg Castle, Austria in September 2002. The 13 revised full papers presented were carefully selected during two rounds of reviewing and improvement. Among the issues addressed are theoretical and methodological topics, such as the resolution of singularities, algebraic geometry and computer algebra; various geometric theorem proving systems are explored; and applications of automated deduction in geometry are demonstrated in fields like computer-aided design and robotics. |