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Earth Sciences : Geophysics / Geodesy

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# Geospatial Algebraic Computations

Theory and Applications

- All important algorithms algebraic symbolic (resultants, Gröbner basis) and algebraic numeric (homotopy, Procrustes) are under one roof
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- All of these methods are discussed from a geospatialist point of view and applied accordingly
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- No special mathematical background is required to understand the theories and their applications

Improved geospatial instrumentation and technology such as in laser scanning has now resulted in millions of data being collected, e.g., point clouds. It is in realization that such huge amount of data requires efficient and robust mathematical solutions that this third edition of the book extends the second edition by introducing three new chapters: Robust parameter estimation, Multiobjective optimization and Symbolic regression. Furthermore, the linear homotopy chapter is expanded to include nonlinear homotopy. These disciplines are discussed first in the theoretical part of the book before illustrating their geospatial applications in the applications chapters where numerous numerical examples are presented. The renewed electronic supplement contains these new theoretical and practical topics, with the corresponding Mathematica statements and functions supporting their computations introduced and applied. This third edition is renamed in light of these technological advancements.

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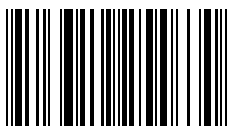
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