

Special Issue

Real Algebraic Geometry and Its Applications

Message from the Guest Editor

This Special Issue explores the theoretical field of real algebraic geometry and its interactions with robotics and computer vision applications. Real algebraic geometry provides theoretical frameworks and computational tools that transform the applied fields above through its fundamental structures—semi-algebraic sets, real varieties, toric geometry, and related algorithms. These mathematical approaches offer elegant solutions to complex problems, such as modeling configuration spaces in robotics and camera calibration in computer vision, providing global guarantees that purely numerical methods cannot. Recent advances have enabled breakthroughs in motion planning, geometric vision problems, and robotic manipulation. This Special Issue welcomes original research contributions that showcase real algebraic geometry developments and innovative applications in robotics and computer vision, as well as theoretical developments inspired by challenges in these domains.

Guest Editor

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Message from the Editor-in-Chief

The journal *Mathematics* publishes high-quality, refereed papers that treat both pure and applied mathematics. The journal highlights articles devoted to the mathematical treatment of questions arising in physics, chemistry, biology, statistics, finance, computer science, engineering and sociology, particularly those that stress analytical/algebraic aspects and novel problems and their solutions. One of the missions of the journal is to serve mathematicians and scientists through the prompt publication of significant advances in any branch of science and technology, and to provide a forum for the discussion of new scientific developments.

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