

Preliminary Announcement and Call for Papers

Journal of Algebra



Announcing a New Section on

Computational Algebra

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STATEMENT OF PURPOSE

Constructive or computational methods have always been a characteristic feature of algebra. With the introduction of algebraic structures in the 19th century, non-constructive methods came to play until, for some periods in the first half of the 20th century they dominated the constructive methods. The rapid development of computer technology in the second half of that century led to a revival of the constructive methods, which are now used to investigate the algebraic structures.

This is reflected in the ever more papers submitted to the *Journal of Algebra* which make essential use of computer calculations. To provide an appropriate forum for such contributions and to broaden the scope of the Journal we have introduced the new section.

To view a Call for Papers see overleaf >>>

What kind of papers are particularly welcome in the new section of the *Journal of Algebra*?

- ? Papers in which constructive (computational) methods are essential for the results
- ? Results obtained by computer calculations. To be suitable for publication such results must represent a major advance of mathematics. It is not sufficient to extend previous computations by means of higher computer power. Rather the contribution has to exhibit new methods and mathematical results to be accepted
- ? Classifications of specific algebraic structures (in form of tables, if appropriate)
- ? Description and outcome of experiments, to put forward new conjectures, to support existing conjectures, or to give counter examples to existing conjectures
- ? Description and analysis of new algorithms (not program listings, not, in the first place, discussions of software development issues), improvements and extensions of existing algorithms, description of computational methods which are not algorithms in the strict sense (since, e.g., they need not terminate)

Contributions are welcome from all areas of *algebra*, including *algebraic geometry* or *algebraic number theory*, if the emphasis is on the algebraic aspects.

Contributions describing applications of algebraic results or methods, for example in *coding theory*, *cryptography*, or the algebraic theory of *differential equations* are highly welcome.

An important general criterion for the publication of a paper in the new section is its emphasis on the constructive aspects in the development or revision of a theory, or the solution of a problem.

The contributions will in general be available in print, as well as in electronic form through *ScienceDirect*® (www.sciencedirect.com). The electronic version may contain additional material such as extensive tables or animated pictures.

SUBMIT YOUR PAPERS

Researchers are encouraged to submit papers by e-mail, as outlined in the *Statement of Purpose*, to the Editorial Office at Journal.Algebra@ihp.jussieu.fr. Submitted papers should include reference that they are for the '*Section on Computational Algebra*' and the name of the editor to whom the paper is submitted.



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