LINEAR ALGEBRA AND ITS APPLICATIONS

CALL FOR PAPERS

Special Issue on *Structured Matrices and Their Applications*

Many problems in applied mathematics and engineering give rise to structured matrices, either in equations to be solved or as mathematical structures that characterise a system. Typical examples include queuing theory, polynomial computations, the numerical solution of difference and differential equations, digital filtering and image processing. This wide range of applications in which structured matrices arise has been the impetus for substantial research effort into the theory and properties of structured matrices, and the development of efficient and stable algorithms with which computations can be performed on them.

LAA has published two special issues devoted to the structured matrices and their applications:

- Volume 366, 2003 (D. A. Bini, G. Heinig, E. Tyrtyshnikov, editors).
- Volume 428, 2008 (W-K. Ching, M.K. Ng, E. Tyrtyshnikov, editors).

This special edition of LAA is devoted to the proceedings of the conference on structured matrices and their applications, which will be held in Kalamata, Greece (`http://noether.math.uoa.gr/conferences/sla2014/`). It will include papers that consider the theoretical and numerical properties, and the applications, of structured matrices. Two aims of the conference are the development of new methods and results in structured matrices for the improved solution of practical problems that arise in science and engineering, and a discussion of new and open problems, with a view to novel methods for their solution. Papers that address these issues are particularly welcome.

Areas and topics of interest for this special issue include, but are not limited to:

- Methods and theory for
  - Different types of structured matrices
  - Structured matrices that arise in particular applications
  - Linear and non-linear structured matrices
  - Functions of structured matrices
  - Multilinear algebra
  - Matrix-tensor theory
  - Condition estimation of structured matrices
- Applications in
  - Differential and difference equations
  - Digital filter theory
  - Signal and image processing
  - Polynomial computations
  - Integral equations
  - Control theory
  - Probability theory
  - Interpolation

The **deadline for submission** of papers is **December 31, 2014**, and the special issue is expected to be published in 2016. Papers should be submitted to the responsible editor-in-chief V. Mehrmann, choosing the special issue "Structured Matrices (Kalamata, Greece, 2014)", through the electronic submission system of LAA at http://ees.elsevier.com/laa . They must meet the publication standards of LAA and will be refereed in the usual way.

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