Special Issue

Computer-Aided Geometric Design and Matrices

Message from the Guest Editors

Symmetry is a feature of geometric forms, graphics, matrices, and other material objects, which is related to their invariance under certain transformations. Matrices are used in most scientific fields. Many computational problems can be solved by reducing them to matrix calculus and this often involves calculating with large-dimensional matrices. Computer-aided geometric design (CAGD) is a discipline dealing with the mathematical description of shape and the computational aspects of geometric objects. CAGD was originated in naval engineering and the automotive and aircraft industries. CAGD uses tools from several mathematical fields such as differential geometry, linear algebra, computer science, numerical analysis, approximation theory and data structures. Nowadays, the combination of tools from matrices and CAGD is applied in many fields of engineering, industry, medicine and life sciences. The main purpose of this Special Issue is to gather recent results on techniques arising from the linear algebra and computational mathematics that can be adapted to deal with problems in CAGD.

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About the Journal

Message from the Editor-in-Chief

Symmetry is ultimately the most important concept in natural sciences. It is not surprising then that very basic and fundamental research achievements are related to symmetry. For instance, the Nobel Prize in Physics 1979 (Glashow, Salam, Weinberg) was received for a unified symmetry description of electromagnetic and weak interactions, while the Nobel Prize in Physics 2008 (Nambu, Kobayashi, Maskawa) was received for the discovery of the mechanism of spontaneous breaking of symmetry, including CP symmetry. Our journal is named *Symmetry* and it manifests its fundamental role in nature.

Editor-in-Chief

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