



symmetry

an Open Access Journal by MDPI



Advances in Visual Psychophysics: Symmetry and Symmetry Groups

Guest Editor:

Dr. Klaus Landwehr

Psychologisches Institut,
Johannes Gutenberg-Universität
Mainz, 55099 Mainz, Germany

Deadline for manuscript
submissions:

31 August 2024

Message from the Guest Editor

Dear Colleagues,

The aim of the present Special Issue is to compile a comprehensive psychophysics of the visual perception of 2D and 3D symmetries and symmetry groups. Stimulus features to be considered include the underlying mathematical parameters (e.g., unit cells, generating regions) as well as surface characteristics (e.g., shapes of tiles, pattern motifs, and space fillers). Of special interest are multiple symmetries as they are seen in tilings and patterns, and also in colored designs, in which the symmetry groups of elements and wholes, or shapes and colors, do not coincide. With regard to responses, the focus is on detection, discrimination, and identification, which can be measured using various psychophysical procedures, but which can also be described in terms of signal detection theory.

(1b) A more detailed exposition:

In mathematics, symmetry (isometry) is well defined for the Euclidean plane and Cartesian space. The concept can be extended to other surfaces (e.g., the surface of a sphere) and to higher-dimensional spaces. In any case, there are a limited number of operations that can algebraically be combined to yield symmetry groups...



mdpi.com/si/179965

Special Issue



Editor-in-Chief

Prof. Dr. Sergei D. Odintsov

1. Institució Catalana de Recerca
i Estudis Avançats (ICREA),
Passeig Luis Companys, 23,
08010 Barcelona, Spain
2. Institute of Space Sciences
(ICE-CSIC), C. Can Magrans s/n,
08193 Barcelona, Spain

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.

Author Benefits

Open Access: free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility: indexed within Scopus, SCIE (Web of Science), CAPlus / SciFinder, Inspec, Astrophysics Data System, and other databases.

Journal Rank: JCR - Q2 (*Multidisciplinary Sciences*) / CiteScore - Q1 (*General Mathematics*); Q1 (*Physics and Astronomy*); Q1 (*Computer Science*)

Contact Us

Symmetry Editorial Office
MDPI, St. Alban-Anlage 66
4052 Basel, Switzerland

Tel: +41 61 683 77 34
www.mdpi.com

mdpi.com/journal/symmetry
symmetry@mdpi.com
X@Symmetry_MDPI