

# **SYMMETRIES IN ELEMENTARY PARTICLE PHYSICS**

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For describing subatomic particles, symmetry plays a much more important role than the simple observation of aesthetic systematics in their structures. Distinction is made between global and local symmetry; the latter is essential for the internal consistency of our description of these particles and the forces between them, and this has led to the prediction of an entirely new type of particle, the Higgs boson.

Also the gravitational force, holding the entire cosmos together, is based on a local symmetry, and when one tries to combine everything, an interesting mathematical concept is often invoked: supersymmetry.