



Advances in High Energy Physics

Special Issue on
**Supersymmetry, Supergravity, and Superstring
Phenomenology**

CALL FOR PAPERS

Supersymmetry, supergravity, and superstring are the most popular research topics in particle physics. Supersymmetry is a generalization of the spacetime symmetries of the quantum field theory that links the matter particles with the force-carrying particles and implies that there are additional superparticles necessary to complete the symmetry. Supergravity is the theory that combines the principles of supersymmetry and general relativity. It naturally includes gravity along with the other fundamental forces (the electromagnetic force, the weak nuclear force, and the strong nuclear force). String theory is the leading candidate for a theory that unifies all fundamental forces in nature in a consistent scheme. It also provides a consistent framework for the theory of quantum gravity.

The phenomenology of supersymmetry, supergravity, and superstring is very rich and covers many topics: flavour physics and CP violation, Higgs and collider physics, and astroparticle physics. The recent developments in these theories with important applications to particle physics and cosmology are the main theme of this special issue.

Potential topics include, but are not limited to:

- ▶ MSSM status and prospects for LHC phase 2 and future upgrades
- ▶ Opportunities at future colliders
- ▶ WIMP dark matter and SUSY searches
- ▶ Inflation in supergravity after plank and bicep
- ▶ Status of gauge mediation of SUSY breaking
- ▶ Split supersymmetry
- ▶ SUSY GUTs from F-theory
- ▶ M-theory phenomenology
- ▶ de Sitter vacua in supergravity and string theory and SUSY breaking

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