Searching for Supersymmetric Particles

Xinan Zhou, Stony Brook University — Supersymmetry (SUSY) is a special symmetry postulated to exist in many physics theories that relates particles of different statistics. However, evidence of the existence of SUSY has still not been found by decades’ experimental searches. In this presentation I will introduce the basic concept of supersymmetry and discuss why SUSY is favored in constructing some of the physics models, especially the supersymmetric extension of the Standard Model. Then I will talk about some of its consequences and relate them to experiment searchings. Methods and results are briefly introduced from two sides: the searching in astrophysics and the searching in colliders. The presentation concludes with an outlook of the searching for supersymmetric particles in the future.