Institut Henri Poincaré

11 rue Pierre et Marie Curie, 75231 Paris cedex 05

String Theory in Greater Paris

Rencontres Théoriciennes

"Supergravité, théorie des cordes et théorie M"

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Antoine Bourget

IPHT

Why Symplectic Singularities ?

In the past decade, a kind of geometric space known as symplectic singularities have become a popular topic for an increasing community of physicists and mathematicians. My goal is to explain the reasons for this sudden interest.

Within the context of supersymmetric theories, they have incarnations as hyperKähler quotients, Higgs branches, Coulomb branches, they serve as a tool in the study of SCFTs, allow to explore RG flows and deformations, and are connected to vertex operator alegras. In this review talk, I will recall the basic definitions and examples, and mention a few very recent advances and open problems.

Institut Henri Poincaré, salle 314, 3ème étage