ID de Contribution: 27 Type: Non spécifié

Remote talk - Spectral Flow Construction of N=2Superconformal Orbifolds (T: 50mn + Q: 10mn)

vendredi 13 mai 2022 14:00 (1 heure)

Ten-dimensional Superstring theory unifies the Standard Model and quantum gravity. To obtain a four-dimensional theory with Space-Time Supersymmetry (which is necessary for phenomenological reasons), as shown by Candelas, Horowitz, Strominger, Witten, we must compactify six of the ten dimensions on a so-called Calabi-Yau manifold. Another equivalent approach to do the same is the compactification of 6 dimensions into an N=2 Superconformal field theory with the central charge c=9, as was shown by D. Gepner. Each of these two equivalent approaches has its own merits. In particular, Gepner's approach makes it possible to use exactly solvable N=2 SCFT models and thus obtain an explicit solution of the considered model.

The subject of my talk is a new approach to the construction of Calabi-Yau orbifolds of Fermat type required for the compactification in Superstring theory. The idea of the approach is to use the connection of the CY orbifolds with a class of exactly solvable N=2 SCFT models for explicitly constructing a complete set of fields in these orbifold models using the Spectral flow twist (Schwimmer and Seiberg) and the requirement of the mutual locality of the fields.

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Classification de Session: Afternoon chair: Paul Windey