

String phenomenology on twisted tori

Monday 22 February 2016 17:15 (15 minutes)

When trying to relate string theory to four-dimensional observable physics, the starting ten-dimensional space-time is usually split as a four-dimensional Minkowski or de Sitter space-time, times a six-dimensional compact manifold M . In this talk I will focus on M being a twisted torus, also known as nil- or solvmanifold. In addition of being classified and easy to handle, most of these manifolds are negatively curved, which is advantageous for phenomenology. I will first present and comment on newly discovered Minkowski backgrounds. I will then report on a cosmological inflation mechanism proposed in this context, and on the difficulties in its concrete realisation. I will finally discuss dimensional reduction on such manifolds, and their use in simple extra dimensions models for dark matter.

Presenter: ANDRIOT, David (AEI Potsdam-Golm)