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Recent developments in non-relativistic string theory

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Nonrelativistic string theory is a corner of string theory with a nonrelativistic spectrum. The formulation on a flat target spacetime was introduced already twenty years ago, but recent progress in our understanding of non-Lorentzian geometries

such as Newton-Cartan geometry has enabled to formulate this sector on arbitrary curved nonrelativistic spacetimes. I will review these developments, and discuss

how strings on torsional string newton-cartan geometry arises from a limit of relativistic strings. I will also comment on a more general approach based on large speed of light expansions. Finally, I will discuss a further limit that leads to a novel class of worldsheet sigma models that not only have a non-relativistic target spacetime but also exhibit non-relativistic worldsheet symmetries, and show how such sigma models are connected to near BPS limits of the AdS/CFT correspondence.

Type of contribution

Contributed Talk only

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