

International Conference on String Field Theory and String Perturbation Theory



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Light-cone reduction of covariant string field theory

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We extract a light-cone string field theory from Witten's covariant string field theory.

The covariant string field splits into the light-cone string field and trivial excitations of BRST quartets:

The latter generates the gauge symmetry and covariance.

A new light-cone theory, which has an A -infinity type action, is obtained by path-integrating it out from the Witten theory.

We show that the process of path-integrating-out fields is described by the homological perturbation lemma (for A -infinity) and thus our A -infinity light-cone string field theory has the same tree-level amplitudes as the Witten theory.

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