Theoretical Particle Physics, String Field Theory, Unified Theory

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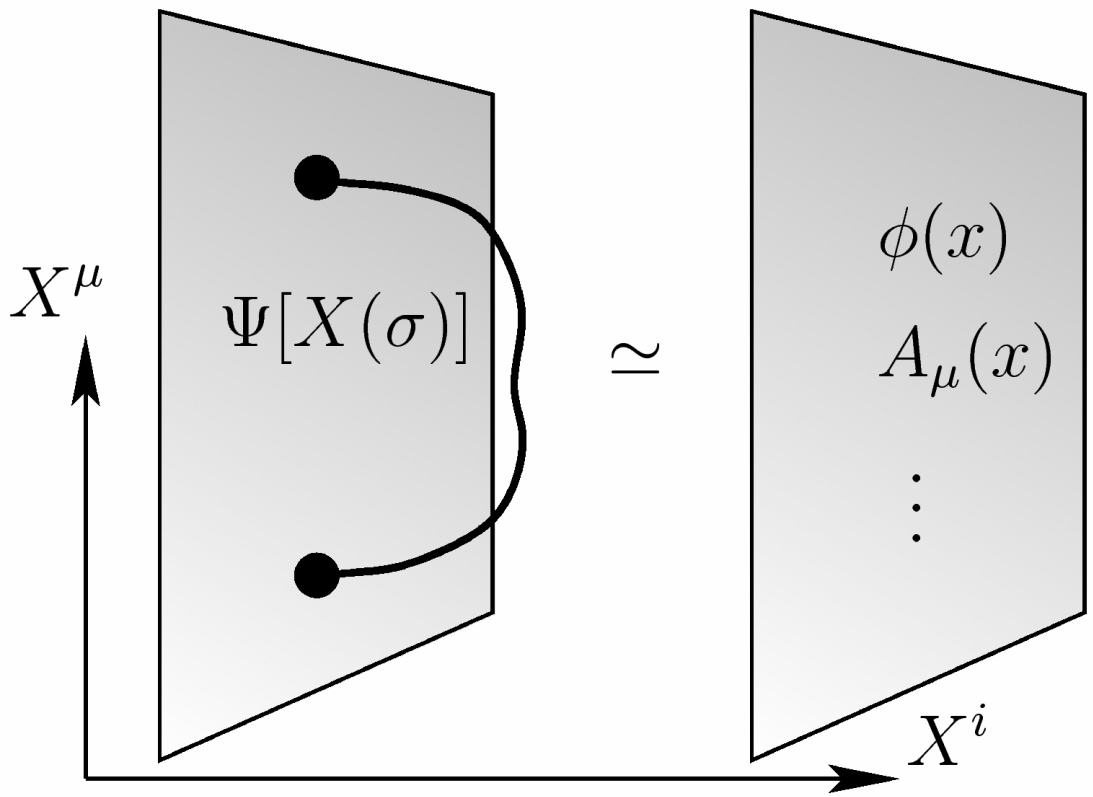

A string field and its component fields on a D-brane.

An elementary particle is a particle whose substructure is unknown, including electrons, neutrinos and quarks. Standard model of particle physics describes the four fundamental forces in the universe, but it should be replaced by a theory like superstring theory incorporating quantum gravity. In order to clarify whether superstring theory describes the real world, we have to study dynamical aspects of string theory. With my research, I aim to better understand the principle behind string theory and to explore non-perturbative physics of string theory in terms of string field theory, and then to approach to a complete theory of particle physics.

Keywords : Superstring Theory, String Field Theory, Gauge Symmetry, Classical Solutions