

P661 Superstring Theory

Fall 2004

Lecture contents (last updated 11/01/04) :

- 08/26 Introduction to the bosonic string theory.
- 08/31 First quantization of the bosonic string and the appearance of the critical spacetime dimension $D = 26$ and the graviton.
- 09/02 The appearance of Einstein's general relativity.
- 09/07 Why string theory is free of ultraviolet divergences ?
- 09/09 The superstring theory
- 09/14 2-dim. Conformal Field Theory
- 09/16 OPE in CFT
- 09/21 Scattering amplitudes
- 09/23 Polyakov-Faddeev-Popov ghosts
- 09/28 More on scattering amplitudes
- 09/30 Coupling constant
- 10/05 Compactification and T-duality
- 10/07 Enhanced Gauge Symmetry
- 10/14 Orbifolds and Orientifolds
- 10/19 D-branes
- 10/21 Review of $SO(d-1,1)$
- 10/26 Type II superstring theory
- 10/28 Branes in Type IIB
- 11/02 Heterotic/Type I superstring theory
- 11/04 Brane World
- 11/09 More on Orientifold
- 11/11 Inter-brane Potential
- 11/16 Calabi-Yau manifolds
- 11/18 Cosmic Landscape
- 11/22 String Cosmology

11/30 Brane Inflation

12/02 Cosmic Strings