Institut Henri Poincaré

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String Theory in Greater Paris

Rencontres Théoriciennes

“Supergravité, théorie des cordes et théorie M”

Jeudi 2 Octobre 2014, 10:00

Daniel Mayerson

UvA

Exotic Branes & 3D Supergravity

String theory has been known for quite a while to contain non-perturbative objects called D-branes in addition to the fundamental strings the theory is named after. However, fairly recently, new types of membranes in string theory are being studied : the so-called "exotic branes". These exotic branes have the interesting feature that their spacetime is multi-valued or non-geometric ; this means that when you travel in a circle around the brane, the resulting spacetime looks different from that which you started out with ! It is of considerable interest to study and classify the possible types of such exotic branes that can exist in string theory. To study them, we can work in a 3D theory (of maximal supergravity), where the exotic branes are just point particles. In this theory, we can at least classify the supersymmetric point particles, thereby gaining insight into what kind of supersymmetric exotic branes exist in string theory.

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