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String Theory in Greater Paris

Rencontres Théoriciennes

“Supergravité, théorie des cordes et théorie M”

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Bruno Le Floch

Princeton

Orbifolds of 4d N=2 supersymmetric gauge theories

After recalling how some 4d N=2 gauge theories arise from reductions of 6d N=(2,0) superconformal theories on a Riemann surface, I will discuss two discrete quotients with codimension 2 orbifold singularities. In the first case the orbifold acts by rotations around one plane of the 4d N=2 theory ; this is related to a Gukov-Witten surface operator that imposes a monodromy around that plane. We deduce instanton partition functions in the presence of surface operators ; interestingly, instantons can fractionalize. In the second case the orbifold acts by reflection on the 4d theory and the Riemann surface. We learn how boundaries are encoded in the AGT correspondence. We are led to consider 4d N=2 quiver theories where some vector multiplets live on a hemisphere and others on a projective space.

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