Institut Henri Poincaré

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String Theory in Greater Paris

Rencontres Théoriciennes

"Supergravité, théorie des cordes et théorie M"

Jeudi 4 Juin 2015, 11:45

Noppadol Mekareeya

Coulomb branch and the moduli space of instantons

I will explain how to compute the Hilbert series that counts chiral operators parametrising the Coulomb branch of the moduli space of 3d N=4 supersymmetric field theories. The formula has applications to physics, such as to the study of infrared dualities in three dimensions and of backgrounds with eight supercharges, as well as to mathematics, where it provides a new way to characterise hyperKähler cones as algebraic varieties. I will then show how the Coulomb branch of certain 3d N=4 generalised quiver gauge theories can be used to compute the Hilbert series of the moduli space of k G-instantons, for any simple Lie group G. The construction is alternative to the ADHM construction that is only available for classical groups G.

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