Institut Henri Poincaré

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String Theory in Greater Paris

Rencontres Théoriciennes

"Supergravité, théorie des cordes et théorie M"

Jeudi 17 Décembre 2020, 16:00

Gordon Semenoff

UBC

Infrared information : an accelerated quark paradigm

Some observations about the interplay of quantum information theoretic issues and the infrared problem in gauge field theories are reviewed. A simple model of a quantum amplitude computation for accelerated heavy quarks in N=4 supersymmetric Yang-Mills theory is formulated and used to study the infrared divergences which would arise at the leading order of weak coupling perturbation theory. It is argued that the answer to some fundamental questions about the realization of global colour symmetry depend crucially on how the infrared problem is resolved. An extrapolation of some aspects of the discussion to strong coupling and large N using AdS/CFT holography are explored.

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