

# HoloGrav short visit grant

## Scientific Report

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My visit to the theory group at Southampton University was prepared in advance so that I would have a long discussion with Professors Douglas Ross and Lev Lipatov on the recent attempts to use the gauge/gravity duality to describe QCD processes dominated by pomeron exchange. With this goal, I presented in an informal *black board* seminar my recent, and not so recent, work on the subject. The seminar turned into a two hour discussion where both Professors Douglas Ross and Lev Lipatov showed a great interest on this new approach to pomeron physics. From this discussions many interesting questions have been raised. We also identified weak and strong points on the two possible approaches to this problem, namely the one based on the gauge/gravity duality, and the one based on conventional perturbative QCD techniques.

In addition, during my visit to Southampton University I also had the opportunity to interact with Professor Nick Evans, on gauge/gravity duality description of mesons. This is an important technical discussion, since we plan to extend the domain of applicability of the gauge/gravity duality to processes where there is production of vector mesons. Indeed there is available data at low Bjorken  $x$  where the process of vector meson production is also dominated by pomeron exchange. We expect to write a small article on this topic shortly.