

Abstract

We consider the D3-brane action in the maximally supersymmetric plane-wave background of type IIB. Upon fixing the light-cone gauge, we obtain the light-cone Hamiltonian which is manifestly supersymmetric. We then focus on specific classes of BPS solutions on this theory, the classes in which the electromagnetic field on the brane is turned on. We construct 1/4 and 1/8 BPS configurations. These solutions are generically of the form “deformed giant three sphere gravitons”, for example there are configurations which have the interpretation of fundamental open string or D1-brane have been ending on the spherical D3-brane giant gravitons, the so-called giant hedge-hogs constructed in [hep-th/0312155] or are of the form of “squashed giants” or of the form of “giant magnons”.