Abstract

In this paper we study and classify supersymmetric solutions of the Matrix theory for the DLCQ of type IIB string theory on $AdS_5 \times S^5$ (and /or the plane-wave) background, ie the Tiny Graviton Matrix Theory. It consists of half, quarter and one eighth BPS solutions and includes configurations with various geometries and topologies generically of the form of fuzzy spherical three brane giants and their geometric deformations. In lack of a classification of such ten dimensional type IIb supergravity configurations, we focus on the dual $\mathcal{N} = 4$ four dimensional half, quarter and one eighth BPS operators and show that they are in one-to-one correspondence with the states of the same set of quantum numbers in TGMT. This provides further evidence in support of the Matrix theory.