

THE STRING THEORY UNIVERSE - 22nd European string workshop and Final COST MP1210 Conference



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INVITED TALK 2: Matthias Gaberdiel

Monday 20 February 2017 14:15 (35 minutes)

Title: BPS states in $AdS_3 \times S^3 \times S^3 \times S^1$

The BPS spectrum of string theory on $AdS_3 \times S^3 \times S^3 \times S^1$ is determined using a world-sheet description in terms of WZW models. It is found that the theory only has BPS states with $j^+ = j^-$ where j^{\pm} refer to the spins of the two $su(2)$ algebras of the large $N=4$ superconformal algebra. We then re-examine the BPS spectrum of the corresponding supergravity and find that, in contradistinction to previous claims in the literature, also in supergravity only the states with $j^+ = j^-$ are BPS. This resolves a number of long-standing puzzles regarding the BPS spectrum of string theory and supergravity in this background. [This is based on joint work with Lorenz Eberhardt, Rajesh Gopakumar and Wei Li.]