High Energy Physics - Theory

Supersymmetric Intersecting Branes on the Waves

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We construct a general family of supersymmetric solutions in time- and space-dependent wave backgrounds in general supergravity theories describing single and intersecting p-branes embedded into time-dependent dilaton-gravity plane waves of an arbitrary (isotropic) profile, with the brane world-volume aligned parallel to the propagation direction of the wave. We discuss how many degrees of freedom we have in the solutions. We also propose that these solutions can be used to describe higher-dimensional time-dependent "black holes", and discuss their property briefly.

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