

Tuesday, November 1 @ 4:00 PM

Physics & Astronomy Building (PAB) 4-330

Exceptional vs superPoincaré algebra as the defining symmetry of maximal Supergravity

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I will discuss exceptional symmetries in maximally supersymmetric supergravity theories. I do it in the light-cone gauge formulation where only the physical degrees of freedom are present. In $d=4$ both the maximal supersymmetry and the E_7 symmetries are symmetries of the Hamiltonian and both can be used to find the Hamiltonian. When we lift the theory to $d=11$ we find that again both symmetries are seemingly present but it takes field redefinitions to see them both. I will also show that E_8 is also spanned by the supermultiplet and should also be a symmetry of the maximally supersymmetric supergravity theories in any dimension.