The homogeneity theorem in supergravity

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I will talk about recent work with Noel Hustler in which we give a proof of the strong form of the homogeneity conjecture for 10- and 11-dimensional (Poincaré) supergravity theories. Namely, we show that if a solution of any of those theories preserves more than one-half of the supersymmetry of the theory, the solution is homogeneous. This will be made precise in such a way that no background in supergravity is assumed.