IFWGP´07 | International Fall Workshop on Geometry and Physics

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Title: Some geometrical aspects of M-theory

Abstract:
A cohomological approach is used to introduce superspace and supersymmetry algebras in any dimension as well as their "non-central" extensions/charges. For D=11, in particular, this produces the "M-theory algebra". Its analysis leads the notion of BPS preons, states preserving all supersymmetries but one, as the basic constituents of M-theory. The search for BPS preons as solutions of the supergravity equations is discussed. The present no-go results for solutions of this type suggest a quantum nature for preonic states.