Sakurai Prize: Why the Higgs Boson data implies an M-theory world

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Compactifying 11D M-theory on a 7D G2 manifold automatically gives a supersymmetric 4D relativistic quantum field theory. The supersymmetry is softly broken by gluino condensation of the largest gauge group hidden sector, which runs fastest. The resulting gravitino mass is about 40 TeV, and the scalar masses and trilinears of the soft breaking Lagrangian have similar values. All solutions having electroweak symmetry breaking are in the two doublet decoupling region. The coefficient $\lambda$ of the effective Higgs potential is calculable and determines $M_h/M_Z$. Using the most recent match and run methods, and running down to the TeV scale gives $M_h = 126$ GeV, and decay BR within a few per cent of the SM Higgs. This was reported in summer 2011, before LHC data, though the result does not depend on any adjustable parameters so it would be unchanged whenever it was reported.