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Hisham Sati* (hsati@pitt.edu). *M-theory and rational homotopy theory*.

M-theory has proven to be very rich from physics and mathematics points of view. We will show how the fields and their dynamics in M-theory can be captured naturally via constructions from rational homotopy theory. We explain how supersymmetric and differential extensions arise. We also comment on extensions beyond the rational level. (Received August 30, 2016)