

1056-83-1051 **A Garrett Lisi*** (gar@lisi.org). *E8 Theory*. Preliminary report.

All gravitational and standard model particle fields may be described as parts of a superconnection valued in the Lie algebra of the split real form of E8, with dynamics described by its curvature. The algebra of standard model fields and their embedding in E8 is exhibited explicitly by a matrix representation, and schematically using weight diagrams. The implications for quantum gravity and particle physics are explored, and open questions discussed. (Received September 20, 2009)