APR18-2018-000189

Abstract for an Invited Paper
for the APR18 Meeting of
the American Physical Society

J. J. Sakurai Prize Talk: Hierarchy of Hierarchies[1]

MICHAEL DINE, University of California, Santa Cruz

Particle physicists confront at least three significant hierarchies – three numbers which are extraordinarily small compared to typical microphysical scales, or simply small pure numbers. These are: the cosmological constant; the ratio of the weak scale to the Planck scale; and the value of the θ parameter of QCD. These hierarchy problems are themselves hierarchical in size, suggesting that their solutions might also be hierarchical. This talk will provide a framework for these issues, and explore how various proposed solutions to each might fit – or fail to fit – within such a hierarchical structure.

[1]Work supported in part by the Department of Energy