Abstract for an Invited Paper for the DNP10 Meeting of The American Physical Society

Neutrinos and Fundamental Symmetries: L, CP, and CPT PAUL LANGACKER, University of Pennsylvania

General classes of mechanisms for generating small neutrino masses are surveyed from a top-down perspective. In particular, string constructions have motivated various possibilities involving higher-dimensional operators, string instantons, and volume effects in large extra dimensions. These may yield small Dirac masses, Majorana masses via the Weinberg operator, or Majorana masses from a seesaw mechanism, though the latter typically differ in detail from the more conventional GUT models. Comments are made concerning leptonic CP and CPT violation.