

PRIMARY SPECTRUM TO 1 TEV AND BEYOND

T.K. Gaisser (1), M. Honda (2), Paolo Lipari (3) and **Todor Stanev** (1)

(1) Bartol Research Institute, University of Delaware, Newark DE 19716, U.S.A., (2) Institute for Cosmic Ray Research, University of Tokyo, 5-1-5 Kashiwa-no-Ha, Kashiwa City, Chiba 277-8582, Japan, (3) Dipt. di Fisica and INFN, Università di Roma I, 00185 Roma, Italy.

We describe fits to recent measurements of the primary proton and helium spectra in the energy region below 100 GeV. Including also the contribution of heavier nuclei, we discuss remaining uncertainties involved in the extrapolation to the TeV energy range and beyond, which is essential for calculation of fluxes of atmospheric muons and neutrinos. We also discuss implications of the recent measurements for the interstellar spectrum in the GeV region, and we compare our extrapolated fits to the all-particle spectrum as determined from air shower experiments in the knee region.