Lateral and Time Distributions of Extensive Air Showers for CHICOS C.J. JILLINGS, E.G. BROBECK, B.E CARLSON, T.W. LYNN, R.D. MCKEOWN, California Institute of Technology, D. WELLS, Jet Propulsion Lab, K.C. CHAN, Chinese University of Hong Kong, J. HILL, California State University, Dominguez Hills, B. FALKOWSKI, R. SEKI, California State University, Northridge, J. SEPIKAS, Pasadena City College — We report results of a series of detailed Monte-Carlo calculations to determine the density and arrival-time distribution of charged particles in extensive air showers. We have parameterized both distributions as a function of distance from the shower axis, energy of the primary cosmic-ray proton, and incident zenith angle. Muons and electrons are parameterized separately. These parameterizations can be easily used in maximum-likelihood reconstruction of air showers. Calculations were performed for primary energies between 10^{18} and $10^{21} eV$ and zenith angles out to approximately $50°$. The calculations are appropriate for the California High School Cosmic Ray Observatory: a 400 km^2 array of scintillation detectors in Los Angeles county. The average elevation of the array is approximately 250 meters above sea level. Currently 64 of 90 sites are operational. The array will be completed this year. We thank the NSF, the CURE program at the Jet Propulsion Laboratory, the SURF program at Caltech, and the Chinese University of Hong Kong.

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