

MODELING ENERGY FLOW IN AIR SHOWERS

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A simple, semi-empirical model illustrates the physical basis of a composition-independent EAS energy reconstruction recently given by the CASA-MIA experiment. This model develops the hadronic portion of air showers in a manner analogous to the well known Heitler splitting approximation of electromagnetic cascades. Various characteristics of EAS are plainly exhibited with numerical predictions in good accord with detailed monte carlo simulations and with data. Results for energy reconstruction, muon and electron sizes, the elongation rate, and for the effects of the primary's atomic number A are discussed.