OBSERVATIONS OF HIGH ENERGY MUONS ASSOCIATED WITH AIR SHOWERS WITH THE L3 MUON SPECTROMETER

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The L3+C experiment at CERN has been extended with an air shower scintillator array. The combination of the measurement of the electron density with the precision measurement of cosmic ray muons in the L3 spectrometer provides a new tool to study the physics of cosmic rays.
A study of correlations between the electron-photon and the muon components of air showers with large area detectors has been known to provide information about the composition of the primary cosmic ray flux. For this, new observations on the energy spectrum of muons over a large energy range and the multiplicity distribution of high energy muons are needed. We present here the details of the L3+C experiment relevant for such studies and discuss some observations.