

Long-range angular correlations of charged particles in high multiplicity e^+e^- collisions using archived data from the ALEPH detector at LEP

Friday, July 6, 2018 6:00 PM (18 minutes)

First results on two-particle angular correlations for charged particles emitted in e^+e^- collisions using 730 pb^{-1} of data collected between 91 and 209 GeV with the ALEPH detector at LEP are presented. With the archived data, the correlation functions are studied over a broad range of pseudorapidity η (rapidity y) and azimuthal angle ϕ with respect to the electron-positron beam axis and the event thrust axis. Short-range correlations in $\Delta\eta$ (Δy), which are studied with e^+e^- annihilations which reveal jet-like correlations. Long-range azimuthal correlations are studied differentially as a function of charged particle multiplicity. Those results are compared to event generators and are complementary to the studies of the ridge signals in high multiplicity pp, pA and AA collisions at the RHIC and the LHC.

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Session Classification: Heavy Ions

Track Classification: Heavy Ions