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Measurements of two-particle correlations in e^+e^- collisions at 91 GeV with ALEPH archived data

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This talk summarize the results on two-particle angular correlations for charged particles emitted in e^+e^- collisions data collected at 91 GeV with the ALEPH detector at LEP. With the archived data, the correlation functions are studied over a broad range of pseudorapidity η and azimuthal angle ϕ with respect to the electron-positron beam axis and the event thrust axis. Short-range correlations in $\Delta\eta$, 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. The integrated associated yield is extracted for the first time from the long range correlation function as a function of the charged particle multiplicity. Those results are compared to predictions from PYTHIA8 and PYTHIA6 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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