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## Long-range near-side correlation in $e^+e^-$ collisions at 183-209 GeV with ALEPH archived data

The first measurement of two-particle angular correlations for charged particles with LEP-II data is presented. The study is performed using archived hadronic  $e^+e^-$  data collected by ALEPH at center-of-mass energies up to 209 GeV, above the  $WW$  production threshold, which provide access to unprecedented charged-particle multiplicities and more complex color-string configurations if compared to previous measurements at LEP-I energies. An intriguing long-range near-side excess is observed in the correlation function measured with respect to the thrust axis in the highest multiplicity interval ( $N_{\text{trk}} \geq 50$ ). Such a structure is not predicted by the Monte-Carlo simulation. The harmonic anisotropy coefficients  $v_n$ , which result from the Fourier expansion of the two-particle correlation functions, were also measured for the first time in  $e^+e^-$  data, and compared to PYTHIA6 predictions and to the results obtained in proton-proton collisions. The results presented in this talk provide novel experimental constraints on the formation of collective phenomena in point-like  $e^+e^-$  collisions.

### Category

Experiment

### Collaboration (if applicable)

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