

# Search for long range flow-like correlation in hadronic $e^+e^-$ collisions with Belle

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The first measurement of two-particle angular correlation functions is reported in high-multiplicity  $e^+e^-$  collisions recorded at  $\sqrt{s} = 10.52$  and  $10.58$  GeV with the Belle detector at KEKB. The main goal of this measurement based on high-statistics low energy data is to search for the long-range (large pseudorapidity difference  $\Delta\eta$ ) near-side (small azimuthal angle difference  $\Delta\phi$ ) “ridge signal”, which is a widely observed phenomenon in high multiplicity  $pp$  and  $pA$  collisions but not yet fully understood. A previous analysis of the ALEPH archived data from hadronic  $Z$  decays, which is limited by the available statistics, has shown no significant long-range correlation signal in the correlation function. We report the two-particle angular correlation function measured for the first time at Belle energies. In addition to this search for a flow-like signal in the unexplored high-statistics Belle data, our measurements are compared to the predictions from PYTHIA and HERWIG event generators, which could provide new constraints to the phenomenological models.

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## Secondary track (number)

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