

# Effect of Disoriented Chiral Condensates in Pion Interferometry and Multiplicity Distribution

H.Nakamura<sup>a</sup> R.Seki<sup>a,b</sup>

<sup>a</sup>*California Institute of Technology, Pasadena, CA 91125, U.S.A.*

<sup>b</sup>*California State University, Northridge, CA 91330 U.S.A.*

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*Presented by: H.Nakamura*

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## Abstract

Effects of disoriented chiral condensates (DCC) are investigated in pion interferometry and multiplicity distribution of high-energy heavy-ion collisions, for the purpose of identifying a definitive signature of DCC in the collisions. Various models are examined that account for the salient features of DCC expected to appear. We compute chaoticities and weight factors, which are commonly used as measures in two- and three-pion interferometry, respectively, and compare them with the recent data from the CERN NA44 collaboration. Some models yield a reasonable agreement with the data, but cannot identify a definitive signature of DCC. Pion interferometry of various charge states including that of neutral pions is needed for a positive identification of the signature. Multiplicity distributions are also examined with the same models for more definitive signature identification.

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