

CESR-TA PRELIMINARY RECOMMENDATIONS FOR THE ILC POSITRON DAMPING RING

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Abstract

The first phase of the CesrTA experimental program is now complete. Electron cloud research over the course of the last 2.5 years has focused on two principle topics. The first is the characterization of methods to mitigate the electron cloud build-up in each of the magnetic field regions of concern for damping ring design. The second is the characterization of the cloud's impact on ultra-low emittance beams. Our intent is now to incorporate these results into the technical design of the positron damping ring for the International Linear Collider. Implications for the ILC DR design will be discussed.

While no paper is available here, two references were published recently covering our recommendations:

M. T.F. Pivi, L. Wang, L. E. Boon, K. C. Harkay, J. A. Crittenden, G. Dugan, M. A. Palmer, T. Demma, S. Guiducci, M. A. Furman, K. Ohmi, K. Shibata, Y. Suetsugu, J. Urakawa, C. Yin Vallgren, "Recommendation for Mitigations of the Electron Cloud Instability in the ILC", Proceedings of IPAC 2011, San Sebastian, Spain.

J. A. Crittenden, J. V. Conway, G. Dugan, M. A. Palmer, D. L. Rubin, L. E. Boon, K. C. Harkay, M. A. Furman, S. Guiducci, M. T.F. Pivi, L. Wang, "Investigation into Electron Cloud Effects in the ILC Damping Ring Design", Proceedings of IPAC 2012, New Orleans, Louisiana, USA.