Joint DESY and University of Hamburg Accelerator Physics Seminar

Tuesday, September 25-th, 2007

(16:00 in Room 459/30b)

The HOM Measurement of TESLA Cavity (Z84) for HOM BPM and Cavity Alignment

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Abstract

Measurements of HOMs for the HOM BPM and the cavity misalignment were made with TESLA cavity (Z84) at KEK during this summer. The measured passbands were TE111, TM110 and TM011. When HOM in multi-cell cavity is used as cavity BPM and cavity misalignment, the following are important:

(1) The polarization angle of used dipole mode at each cell has same angle. X and Y polarizations are separated.

(2) How much is difference in the electrical mode center and the mechanical center at each cell ?

We tried to measure them by using the bead-pull method and an antenna scan. In addition, my group of KEK is developing the STF shape cavity (S.Noguchi, E.Kako et al) for the ILC. We have made a comparison of the HOM performance of the STF cavity and the TESLA cavity.

This presentation will report the result of HOM measurements at KEK.

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