Joint DESY and University of Hamburg Accelerator Physics Seminar

Tuesday, April 12, 2005

(16:00 in Room 459/30b)

Use of Cavity Higher Order Modes as BPMs at the TTF

Josef Frisch

SLAC

Abstract

Measurements at the TTF superconducting LINAC at DESY have demonstrated the use of higher order modes in the SC cavities to measure beam orbits on single bunch beams. Resolutions of 20 microns were obtained, and straightforward electronics improvements are expected to provide 2 micron resolution. These measurements were performed using high speed digital oscilloscopes; however it should be possible to construct a multi–channel system using digital down conversion electronics resembling those used in modern BPM systems. This would allow a reasonably sized system to provide beam position measurements in all of the structures of the TTF2.

D.P.Barber (MPY), J.Rossbach (Univ. HH) and M.Vogt (MPY).