

The Beams and Applications Seminar Series

HOM Data Analyses with Curve Fitting Method for TTF and FLASH.

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Bldg. 401, Room B2100

Monday, March 23, 1:30 pm

(please note special day)

Host: Ali Nassiri, ASD

Narrow Band (NB, 1.69-1.71GHz) dipole and Broad Band (BB, 0-6GHz) data were recorded at the DESY FLASH facility. The analyses of NB dipole data have so far focused on using a (singular value decomposition) SVD technique to show the dipole signals provide an alternate means of measuring the beam trajectory. However, these analyses do not extract the modal information. Here I describe a method to fit the signal frequency spectrum data to obtain this information, and then use the resulting mode amplitudes and phases together with conventional BPM data to determine the mode polarizations, relative centers, and cavity tilts. Compared with the SVD analysis, the Curve Fitting (CF) method is more physical. Some results from FSF (First Step Fitting) with CF for BB data are compared with NB results. They are consistent in general.

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