

Possible location for feedback kickers

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3rd ATF2 Project Meeting, KEK

12/ 18/ 2006

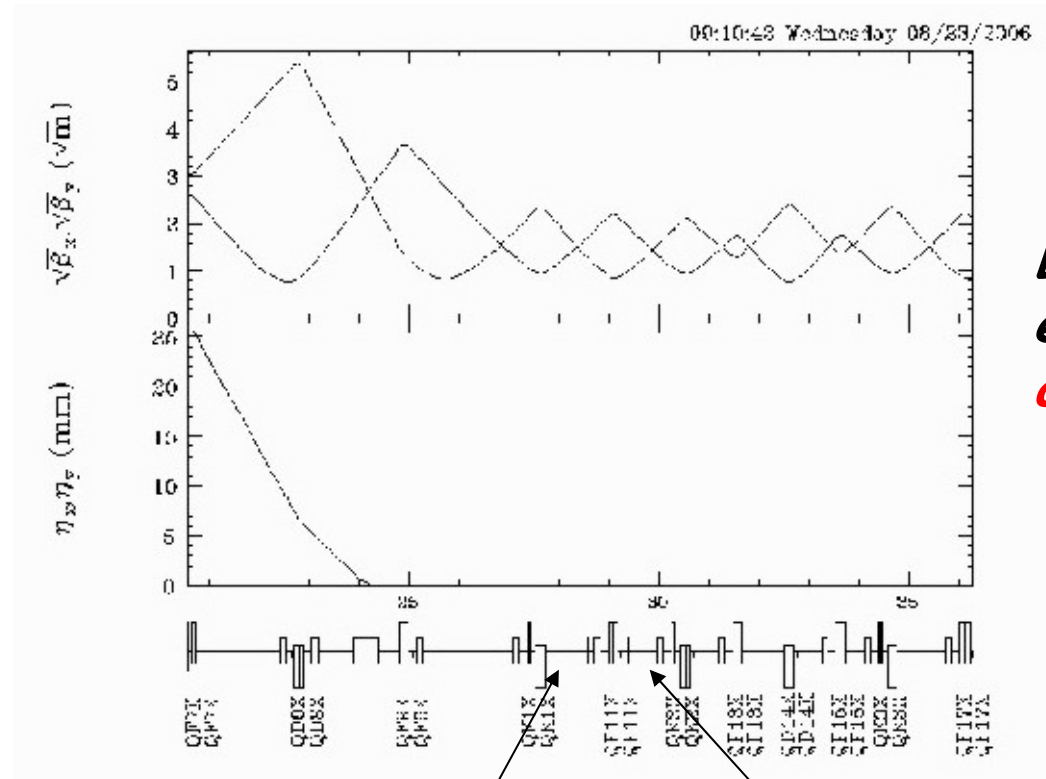
FB kickers

FONT group requests 2 kickers for horizontal direction and 2 kickers for vertical direction with stripline BPM For the first stage.

In addition ...

We want to use the kickers for the long term IP FB of the incoming beam fluctuations .

Possible FB kickers location



Both kickers have electrodes for *horizontal* and *vertical* direction

Phase advance
50 degrees

FB kicker 1
15cm upstream
to ZH5X

FB kicker 2
15cm downstream
to ML11X

IP stabilization with FB kickers

Injection errors

Sigma W_x = 2e-8 radm

Sigma W_y = 2e-10 radm at injection

This error make the position fluctuations of

6micron at IP, and 6mm at QD0 for horizontal

120nm at IP, and 3mm at QD0 for vertical without FB.

After FB, assuming 5micron FB accuracy

		Sigma x IP	Sigma x QD0	Sigma y IP	Sigma y QD0
ML12X	ML13X	1.43micron	1.46mm	49.0nm	198micron
ML12X	ML14X	1.08micron	0.79mm	45.2nm	223micron
ML12X	ML15X	1.24micron	0.36mm	38.6nm	233micron
ML12X	ML16X	9.35micron	4.77mm	63.2nm	181micron
ML12X	ML17X	1.02micron	1.47mm	45.4nm	210micron
ML13X	ML14X	0.64micron	1.27mm	43.4nm	220micron
ML13X	ML15X	0.55micron	0.42mm	45.3nm	215micron
ML13X	ML16X	1.70micron	1.66mm	45.4nm	215micron
ML13X	ML17X	3.84micron	3.28mm	70.3nm	210micron
ML14X	ML15X	1.48micron	0.44mm	46.4nm	239micron
ML14X	ML16X	0.94micron	0.86mm	42.6nm	209micron
ML14X	ML17X	0.58micron	1.21mm	43.8nm	246micron
ML15X	ML16X	1.22micron	0.34mm	42.4nm	210micron
ML15X	ML17X	0.41micron	0.45mm	42.5nm	241micron
ML16X	ML17X	1.08micron	1.49mm	46.1nm	213micron

Horizontal beam stabilization is enough for 5micron FB accuracy.

We need **1-2micron FB accuracy** to stabilize the vertical beam position at IP.