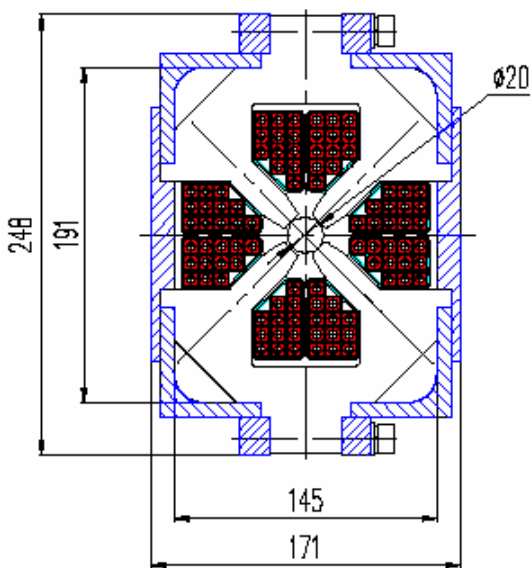


ILC BSY Tune-up Dump Issues

- most recent NLC design (May 2003)
 - high bandwidth ($\pm 20\%$ acceptance to dump)
 - uses scaled SLC SBD kicker magnets to extract (abort & tune-up)
 - has no beam energy diagnostics
 - extraction timing (kicker pulse length, etc.) not considered
- Brett Parker's "fast extraction" design (March 2003)
 - purpose-designed magnets
 - incorporates energy diagnostic chicane
 - minimal optics
- design a hybrid system for ILC
 - proper diagnostics and timing for ILC bunch trains
 - Brett's magnets (perhaps updated designs)
 - high bandwidth
 - PAC'05 abstract submitted, but ...

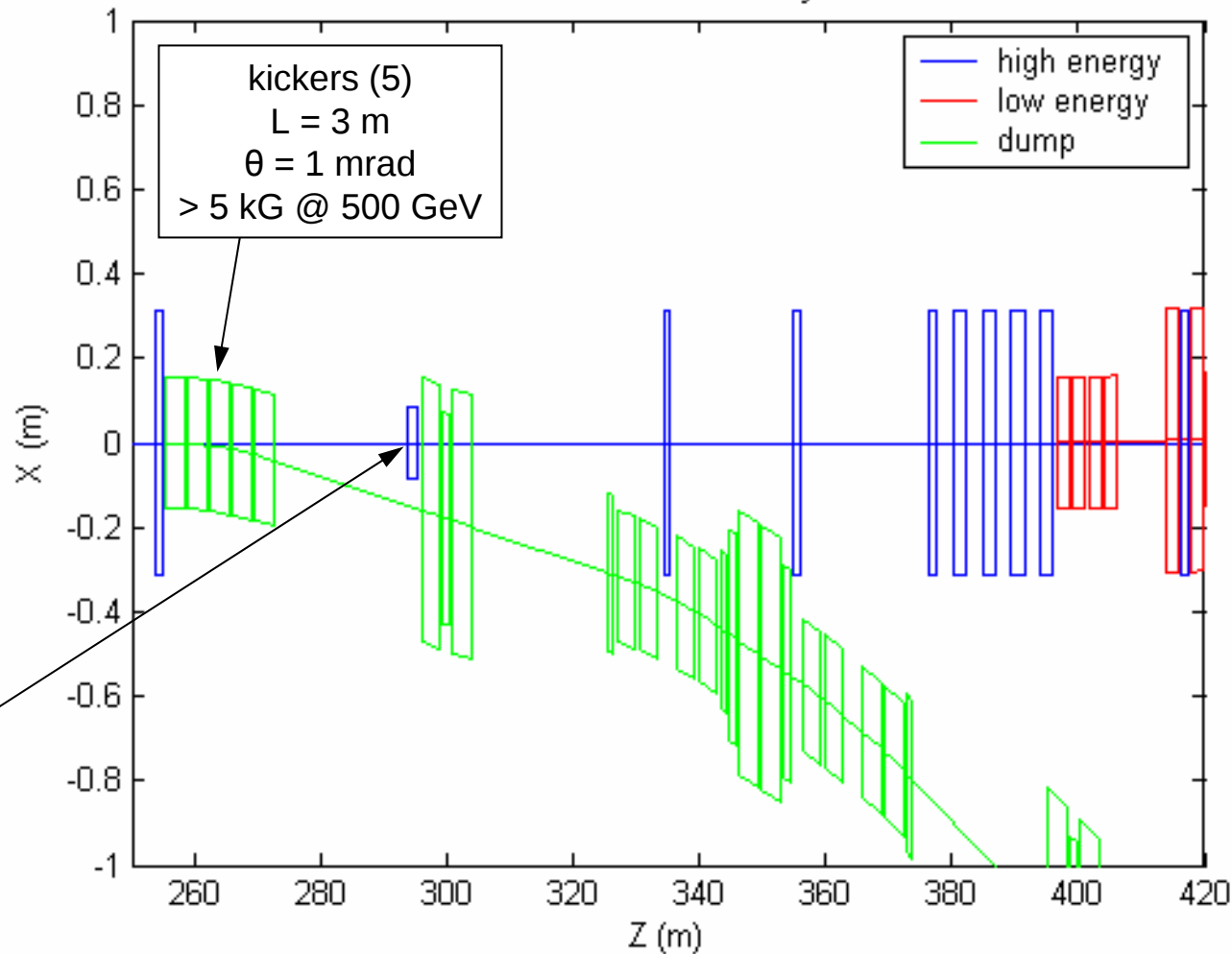
NLC2003

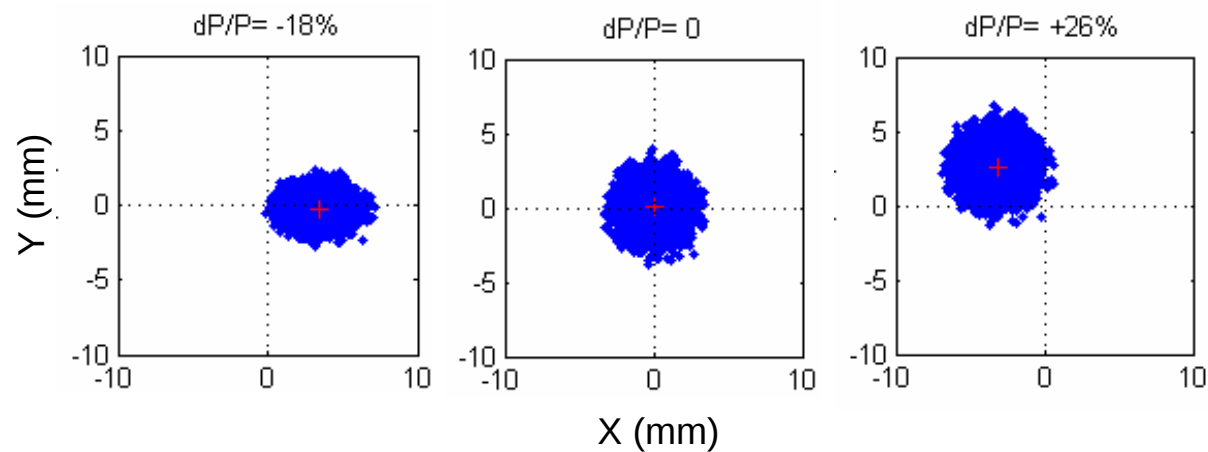
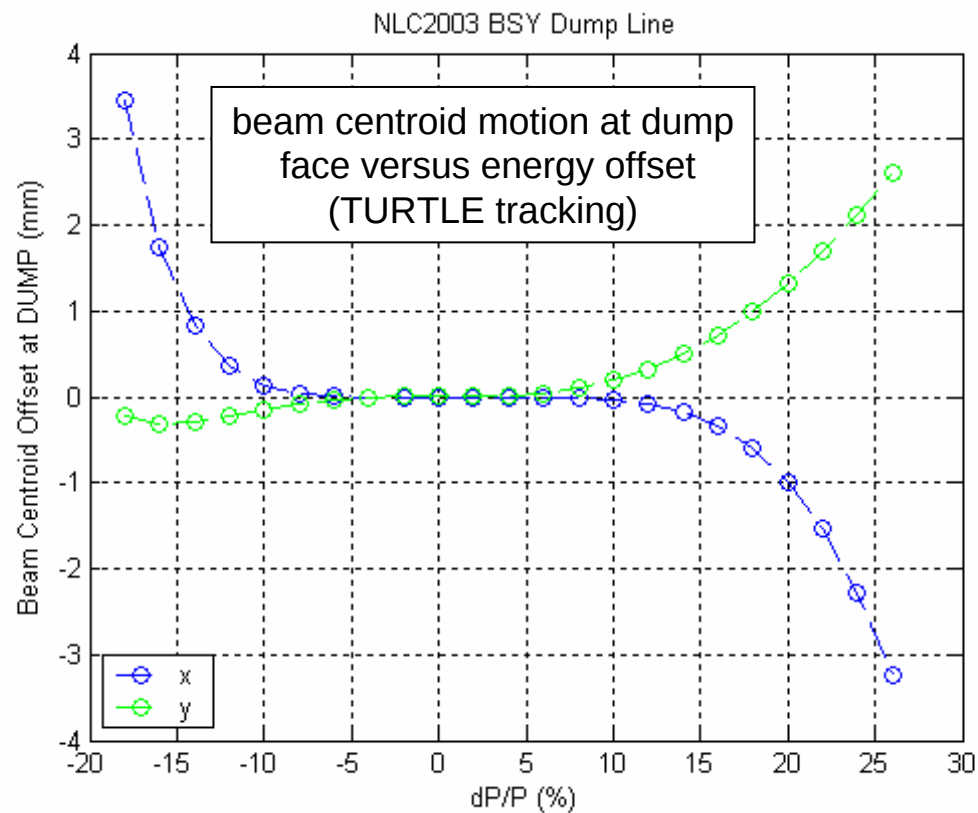


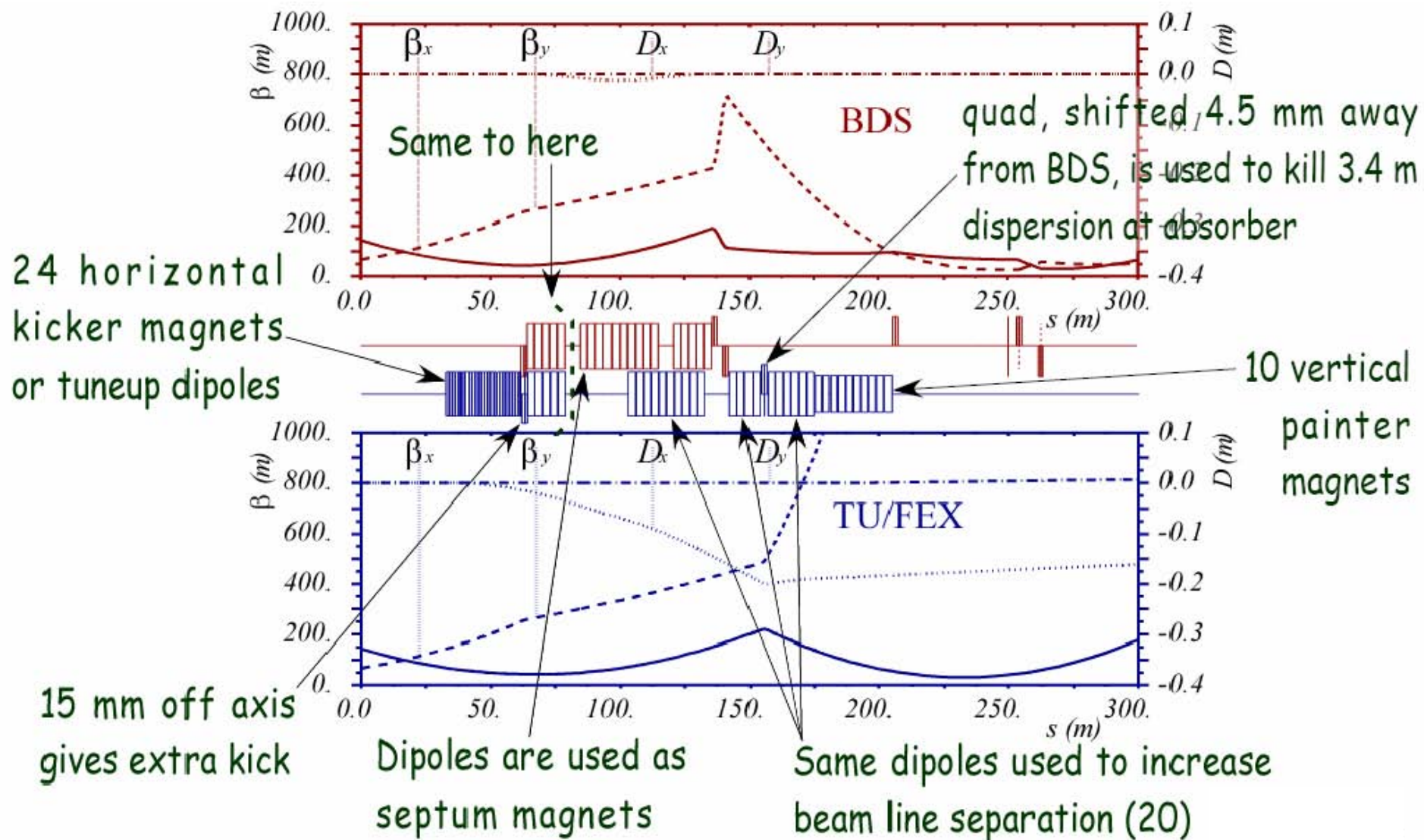
TESLA "Type B" quadrupole

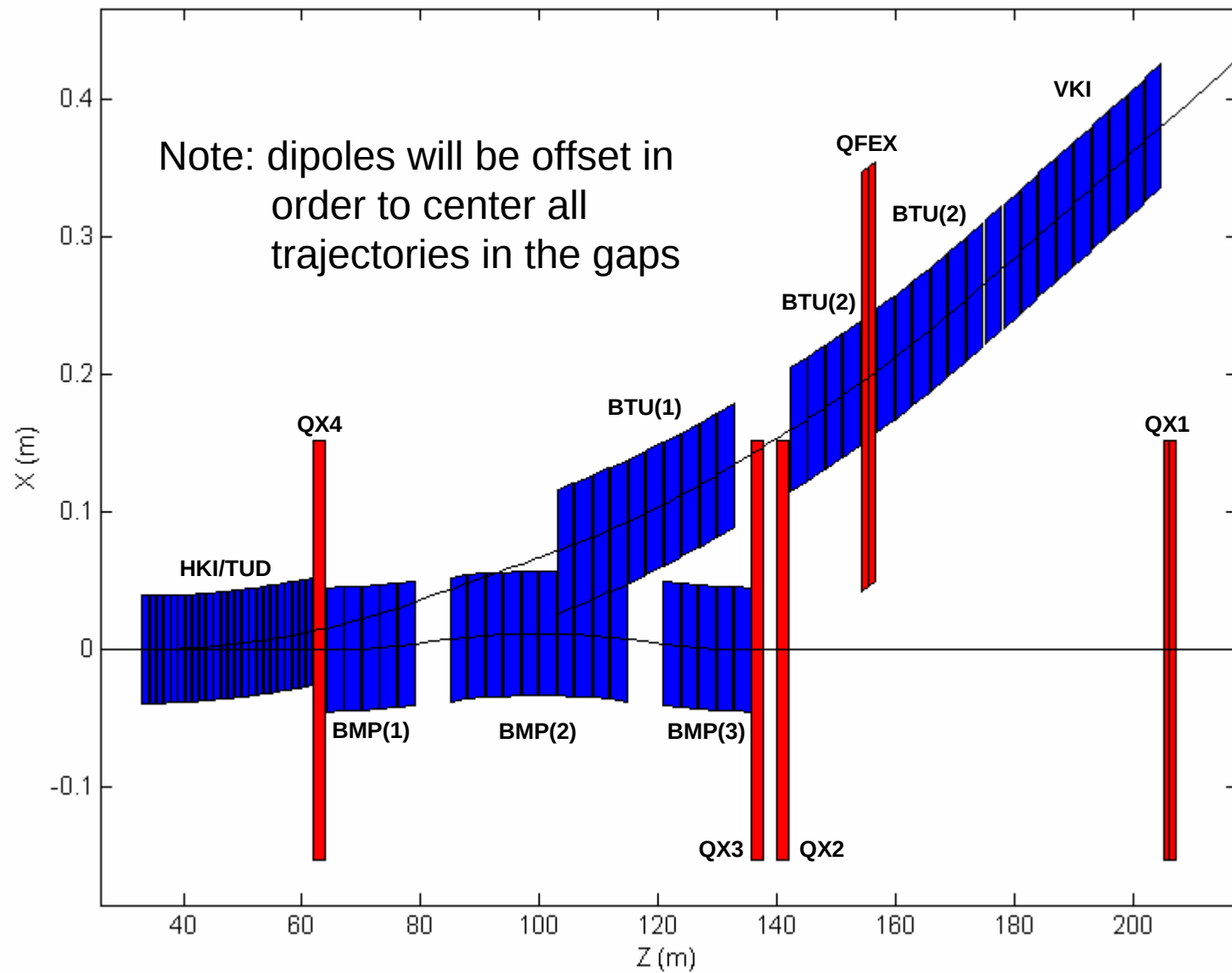
- $L_{\text{core}} = 1.5 \text{ m}$
- bore radius = 10 mm
- max pole-tip field = 7.9 kG

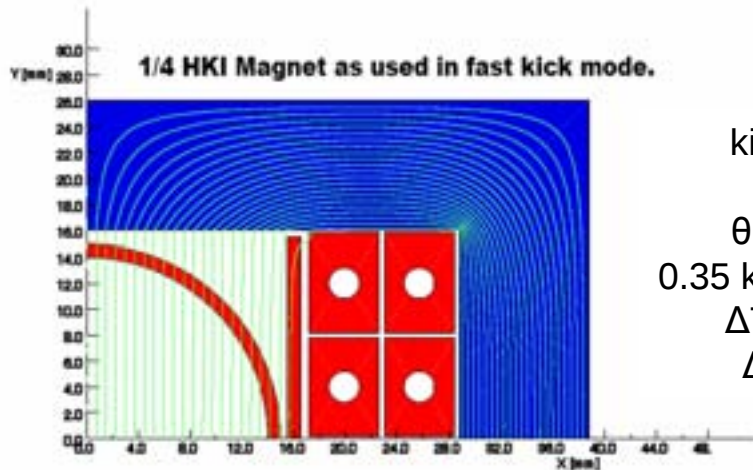
NLC2003 Beam Switchyard



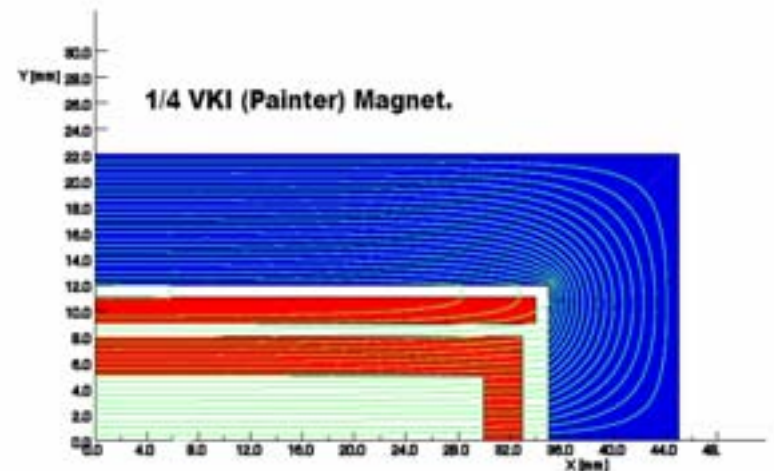
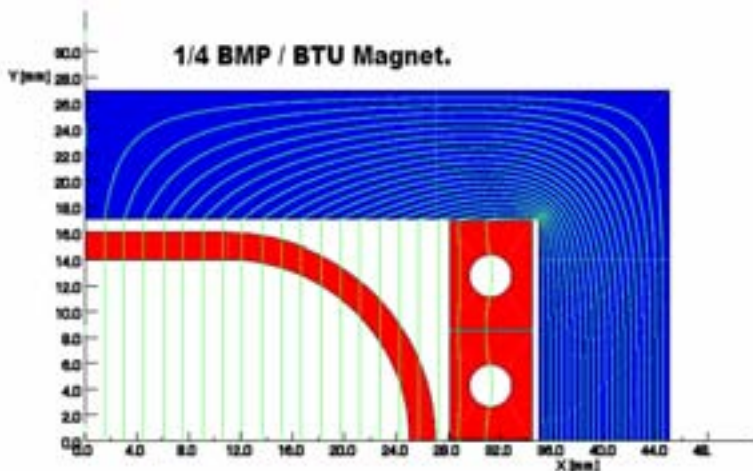
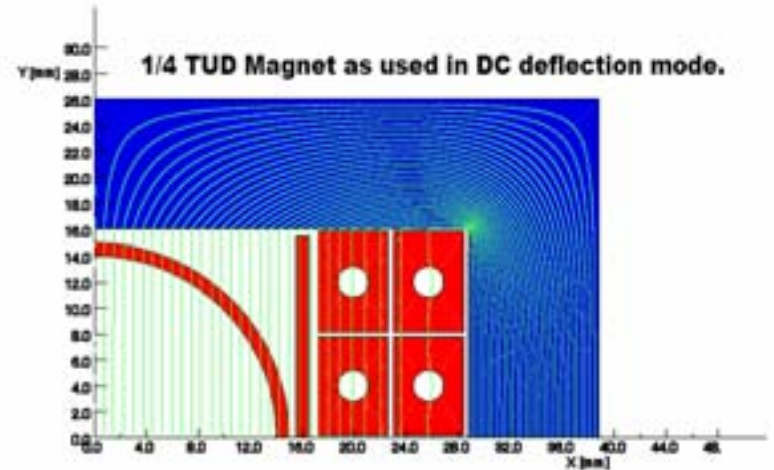




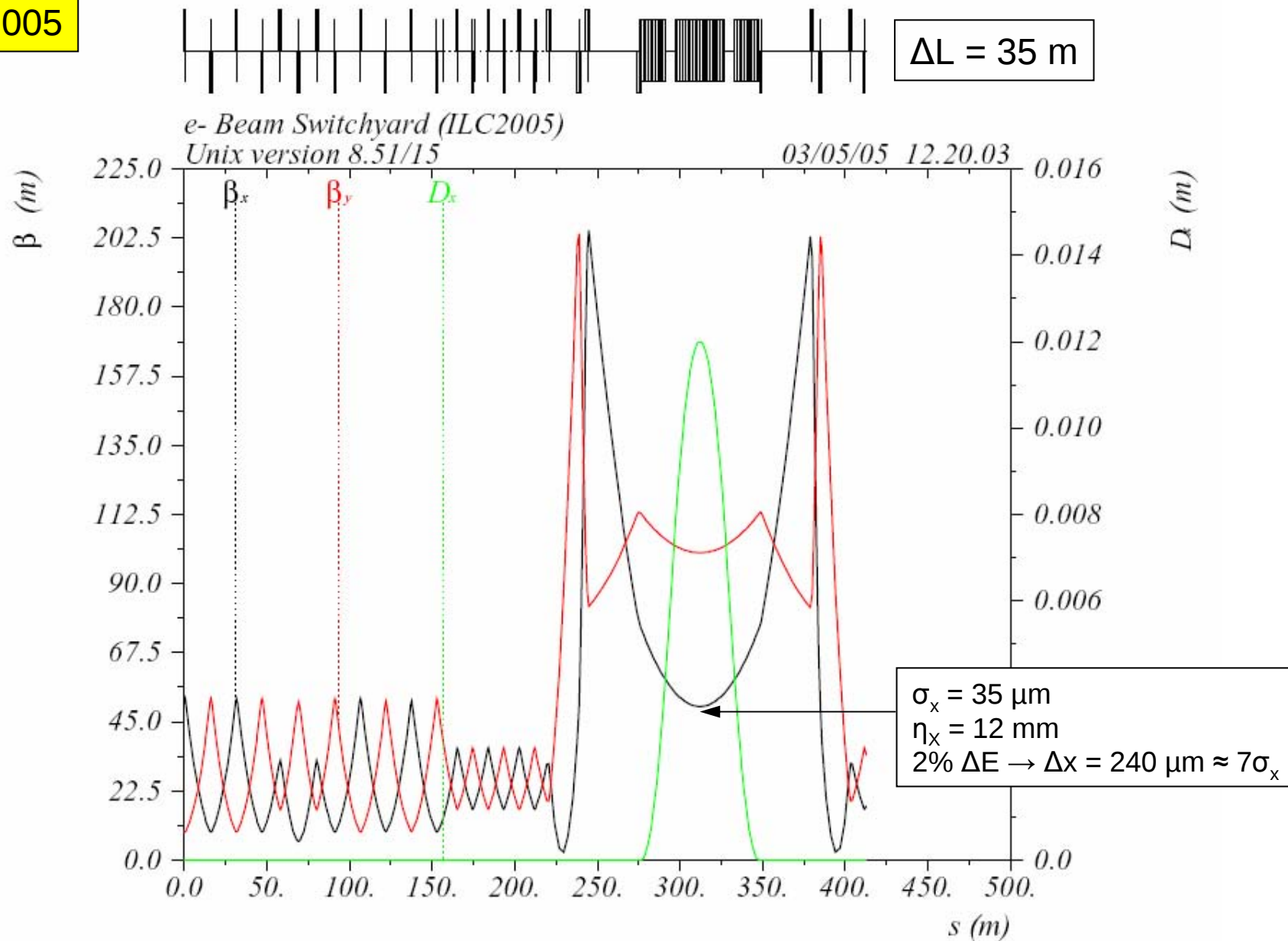


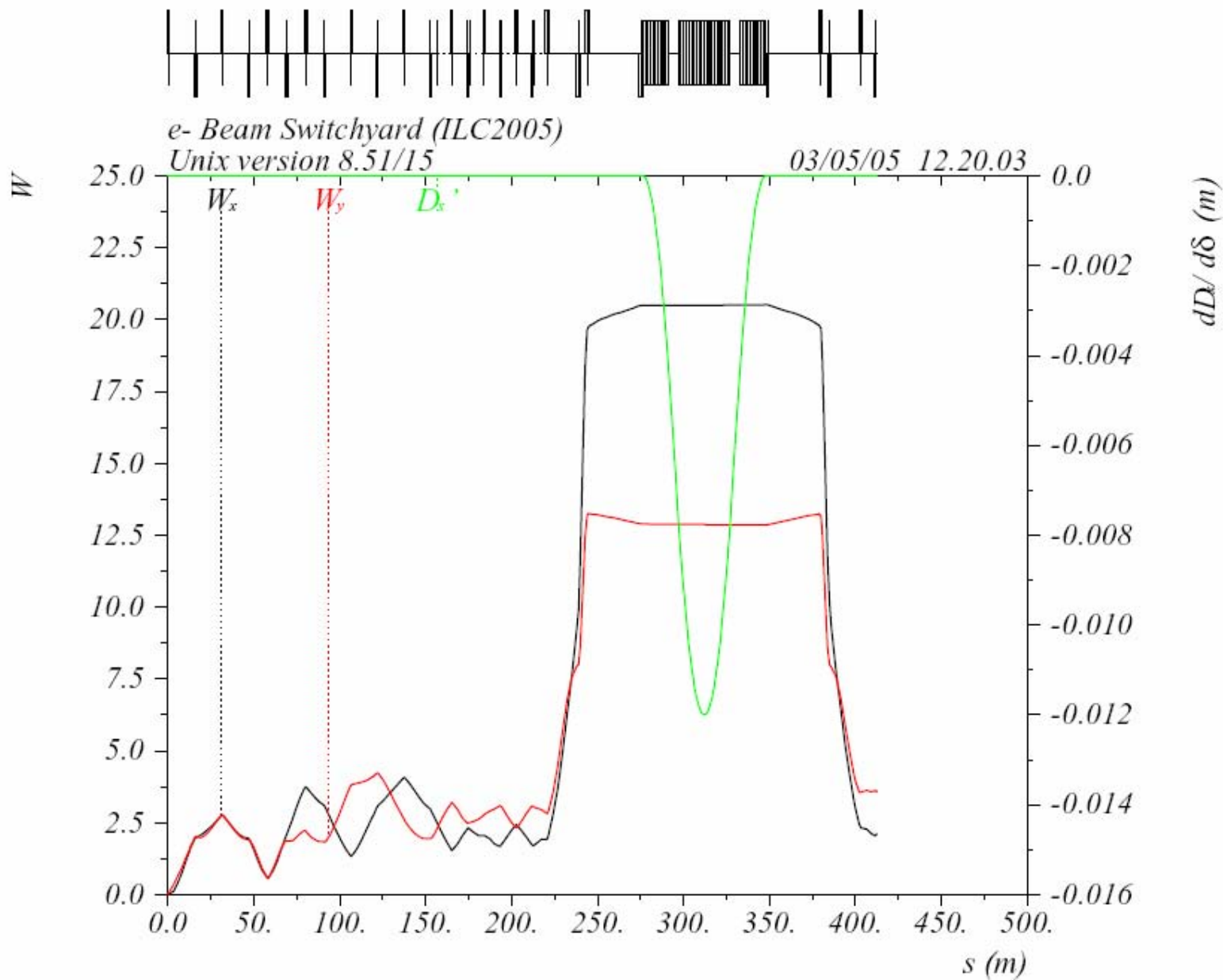


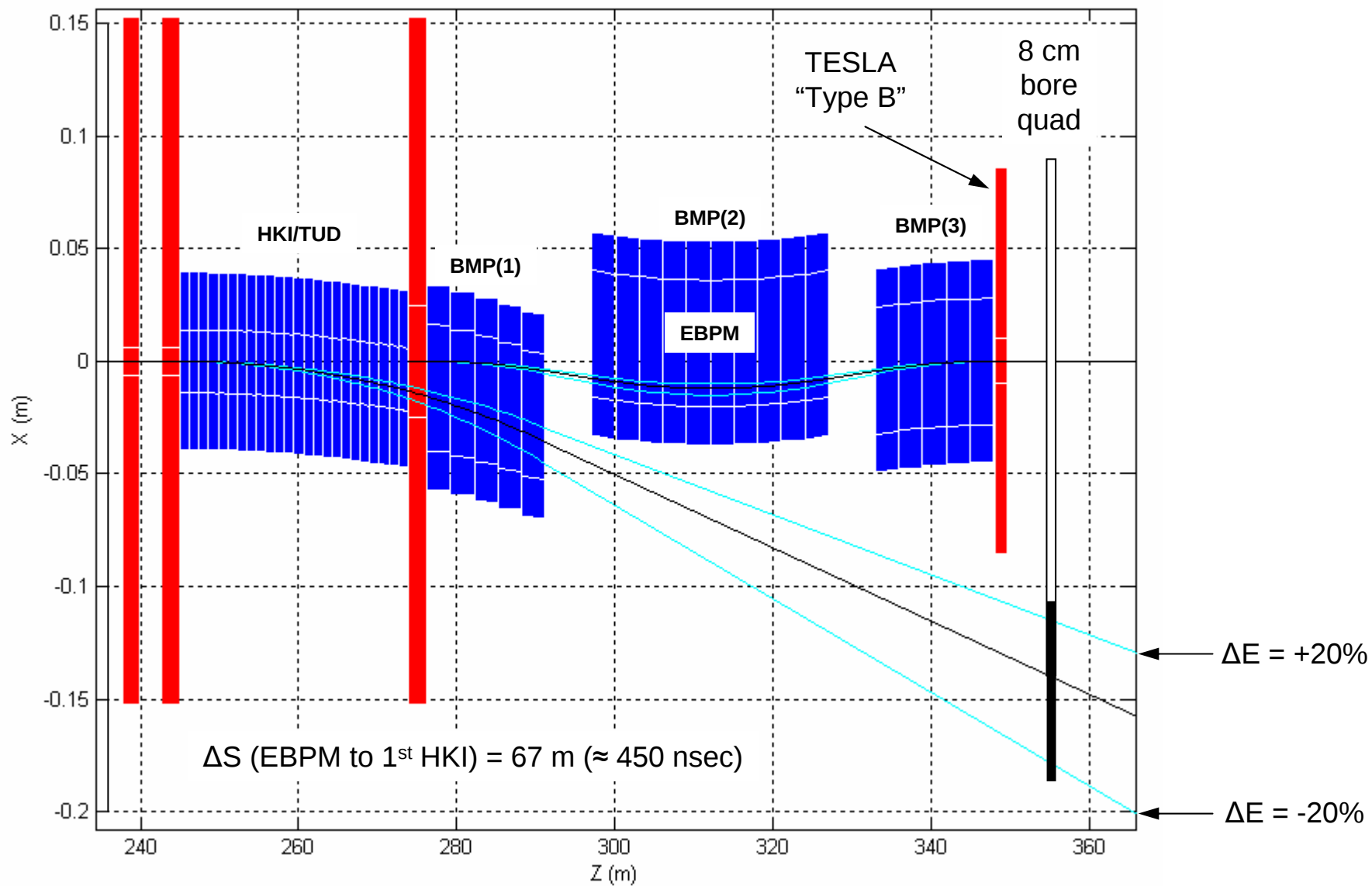
kickers (24)
 $L = 1 \text{ m}$
 $\theta = 40 \mu\text{rad}$
 $0.35 \text{ kG @ } 250 \text{ GeV}$
 $\Delta T = 150 \text{ ns}$
 $\Delta V = 7 \text{ kV}$



See Brett's presentations at: http://www.slac.stanford.edu/~mdw/ILC/Fast_Extraction/BParker20030319.pdf
 and http://www.slac.stanford.edu/~mdw/ILC/Fast_Extraction/BParker20030415.pdf







What's Next

- achromat optics
 - 1st 8 cm bore quad ... Panofsky?
- timing issues
- revisit dump window survivability ... do we need to “paint”?
- tracking studies
- ... not in time for PAC'05 (*mea culpa*)