22 March 2002
JAC

Wiggler Magnetic Field Calculations

Work on suggestions from meeting of March 15

1. What do Vector Fields' *errors* on the B field mean?
   - Why are they big between poles?
   - Why are they signed?

2. Compare line integral of B_Y for 3-pole wiggler to measurement (ST).

3. What about the big net kick (1.6 mrad) calculated for the 7-pole wiggler?
   - Can it be fixed with current in the trim coils?
   - How accurately is it determined?
   - Does it bear a relation to the line integral of B_Y?
   - Does it change if the peak field is lowered to 1.7 T?

4. Does the 7-pole wiggler meet specs in x for peak field of 1.7 T ?

5. Compare Vector Fields to Mermaid
   - How do the DCS divergence and curl tests compare for the two maps?
   - How does the DCS fit work for the Vector Fields field?
   - Can one do these tests and fit for the optimized (*irregular*!) mesh?

6. How do the 7-pole wiggler fields behave in the conductors?
   - What does the mesh look like in the conductors?
   - What is the peak field?
   - *Where* is the peak field?

7. Set $\mu = 1$ in the iron to distinguish contribution of $\mu \neq 1$ from that of the current.

8. Check dependence on mesh size in beampipe region.

9. Do VF tracking in the vertical plane to see focussing effect. (AM)