Wiggler Field Calculations

– Geometrical Tolerances and Coil Deformations –
– In Search of the Skew Quad Component –
– using the 3-Pole 8/8 Model –

1. **Mistake found in model with skew quad component reported last week !**

   - Central pole faces moved horizontally, not vertically.
     Model messed up. Central pole faces overlapping coils.

     ⇒ Ignore this result. All answers below.

2. **Compare five error types to perfect 3-pole model**

   - No appreciable skew quad component found for:
     ⇒ Widening end-pole gap by 100 mils (result shown last week)

     ⇒ Upper central coil current decreased by 1%

     ⇒ Displacing upper half of wiggler by 100 mils in Z

   - Skew quad component of observed magnitude found for:
     ⇒ Raising central pole/coil/yoke by 100 mils

     ⇒ Elongating upper central coil by 100 mils