**DELTA quadrant zero positioning summary**

1. Undulator 2-4 set to zero (z2 = +8mm, z4 = -8mm). Scan rows 1 and 3 in opposite directions ±0.4mm around zero.

Maximum K is at z1=+0.31mm, z3 = -0.31mm

1. Turn OFF undulator 1-3 (z1 = +8.31mm, z3 = -8.31mm) and do scan for rows 2 and 4 ±0.4mm around zero.

Maximum K is at z2=+0.056mm, z3 = -0.056mm

1. Repeat item 1 (z2 = +8.056mm, z4 = -8.056mm)

Maximum K is at z1=+0.322mm, z3 = -0.322mm

1. Do phase shift scan, undulator 1-3 vs. 2-4.

Minimum Bx field is at z1=+0.31mm, z3 = -0.332mm, z2 = +0.068mm, z4 = -0.044mm

1. Phase shift in K, undulator 1-2 vs 3-4.

Maximum K is at z1 = +0.107mm, z2 = -0.159mm, z3 = -0.107mm, z4 = +0.159mm - ?

When phase shift applied, the final result looks like:

Z1= + 0.095mm

Z2= - 0.147mm

Z3 = -0.119mm

Z4 = +0.171mm