**DELTA Probes’ assembly**

(08/11/2015)

**Senis probe in holder, probe coordinate system**

(The holder opening is UP)

≈32mm

**Z**

**Y**

**X**

119

120

**DELTA coordinate system:**

**Z**

**Y**

**X**

**Probes’ position measurement results (DELTA coordinate system):**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Probe #** | **ΔX(mm)** | **ΔY(mm)** | **ΔZ(mm)** | **Roll(°)** | **Pitch(°)** | **Yaw(°)** |
| **119-X** | -0.089 | 0.056 | -2.081 | 0 | - | +0.351 |
| **119-Y** | 0 | 0 | 0 | 1.72648 | 0.288 | - |
| **119-Z** | +0.066 | 0.126 | 0.902 | - | 0.007 | -0.002 |
| **120-X** | -0.189 | 0.298 | -34.592 | 0.181 | - | -0.734 |
| **120-Y** | -0.130 | 0.279 | -32.677 | 2.01783 | 0.404 | - |
| **120-Z** | -0.034 | 0.263 | -31.761 | - | 0.129 | +0.345 |

During the field measurements, the probe was rotated around the X-axis. Therefore the Y and Z coordinates change sign, the X coordinate stays the same. Probe Y direction matches the undulator Y direction; X and Z are in opposite direction. Roll and Pitch have the opposite sign, Yaw has the same sign.

**Results:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Probe #** | **ΔX(mm)** | **ΔY(mm)** | **ΔZ(mm)** | **Roll(°)** | **Pitch(°)** | **Yaw(°)** |
| **119-X** | -0.089 | -0.056 | 2.081 | 0 | - | +0.351 |
| **119-Y** | 0 | 0 | 0 | -1.72648 | -0.288 | - |
| **119-Z** | +0.066 | -0.126 | -0.902 | - | -0.007 | -0.002 |
| **120-X** | -0.189 | -0.298 | 34.592 | -0.18100 | - | -0.734 |
| **120-Y** | -0.130 | -0.279 | 32.677 | -2.01783 | -0.404 | - |
| **120-Z** | -0.034 | -0.263 | 31.761 | - | -0.129 | +0.345 |