Thermal 2 on Lotem Quantum
Finding the correct drum position for edge detection

REQUIRED RESOURCES

- Download the script from the Downloads page of the Splot TechPlanet site (**TechPlanet** > **Output** > **Service Tools** > **Splot**).
- For more information on this script, refer to the EdgeGrooveQuantum800.spt script help (**TechPlanet** > **Output** > **Service Tools** > **Splot** > **Reference**).

ABOUT THE EDGE DETECT GROOVE

The edge detect groove in the Lotem Quantum device helps the head to find the edge of the plate. Incorrect drum positions (`DrumPos`) may cause errors such as:

- Focus learn fail
- Image shifting towards the home direction between colors

On the Thermal 2 head the focus system is designed so that the focus laser aims on an angle. This makes the drum edge position critical. Refer to Figure 1.

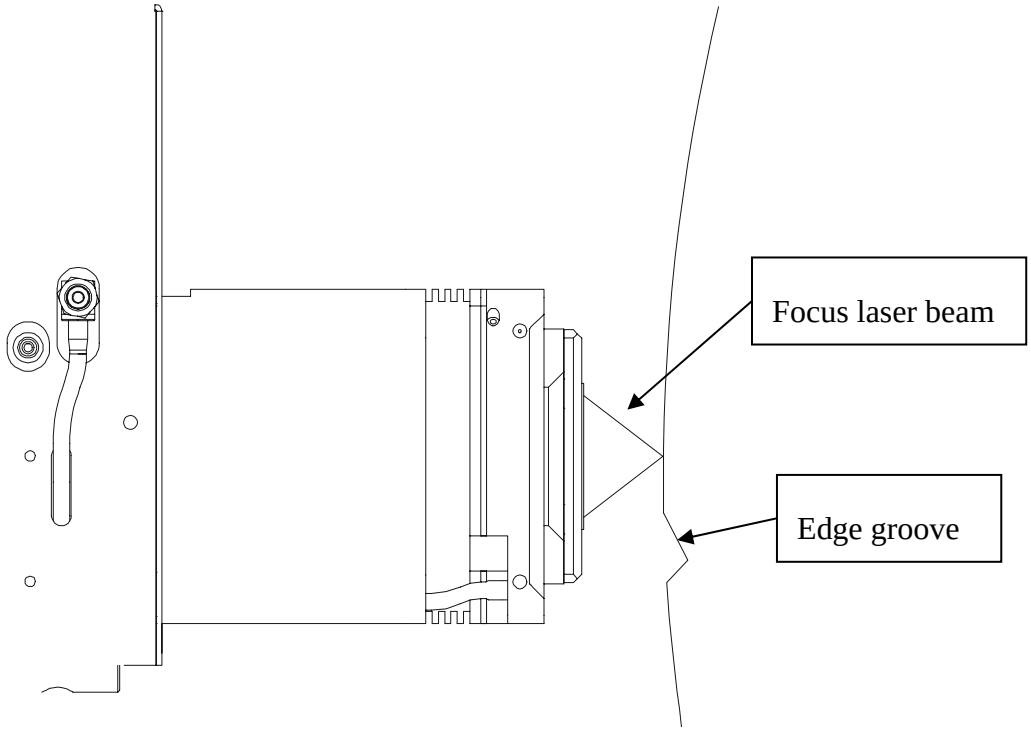


Figure 1: Focus laser on the drum

In order to make the selection of the drum edge position easier and more exact, the script `EdgeGrooveQuantum800.spt` was created.

WHEN TO RUN THIS SCRIPT

- During integration
- Every time the TH2 head is replaced
- Any time the TH2 head mounting is adjusted
- When troubleshooting a focus learn error, in order to confirm the correct edge detect groove position.

About EdgeGrooveQuantum800.spt

This script generates a graph, sum versus drum position, with two lines:

- **solid line**: extended lenses and zstage forward
- **dashed line**: contracted lenses and zstage back

In order to create the worst case conditions, the focus laser transmitter is turned on at full power and the focus receiver is at full gain. Thus the focus SUM signal will rise to saturation as fast as possible.

In these two lenses positions the drum is moved in small steps around the groove.

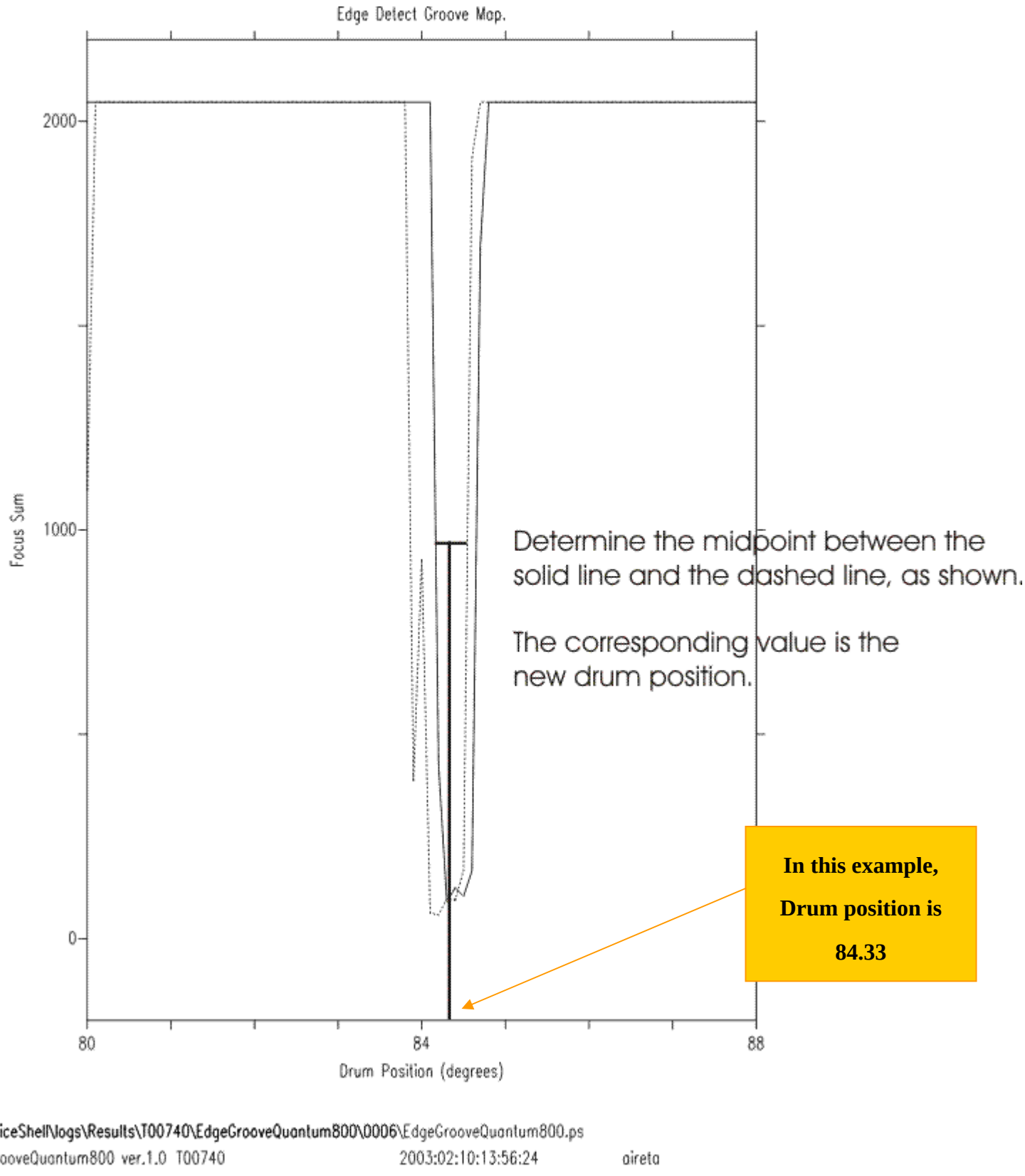
Procedure

Note: This script requires Splot 3.64 or higher.

1. Open the script EdgeGrooveQuantum800.spt

Note: You **do not** need to load a plate.

2. Run the script. The script automatically generates a graph like the one shown below.



3. Find the middle point between the solid and dashed lines, as shown above.

4. From this position move straight down to the Drum Position axis and find the value for drum position. In the sample graph the new drum position would be 84.33.
5. To confirm or change this value in the MCE, type

```
QUANTUM>> set edge

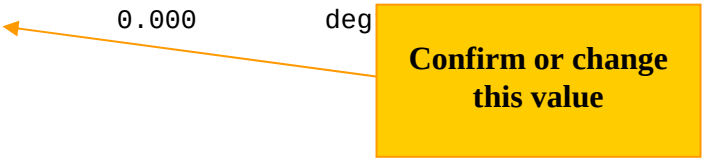
PRM edge parameters:

Group     Parameter    Active       Default      Units

-----------------------------------------------------------

edge      DrumPos      83.160        0.000        deg

*** Command Complete
```



6. If the value needs to be changed (as in this example), type:

```
QUANTUM>> set edge drumpos 84.33

'edge DrumPos' changed from 83.160 to 84.330 degrees

*** Command Complete
```

7. Confirm the drum position value. First, load a plate.
8. Type `QUANTUM >>edge test`. Record the value of the edge position estimate. Repeat this test five times. Each time, check for +/-10 micron error tolerance.