

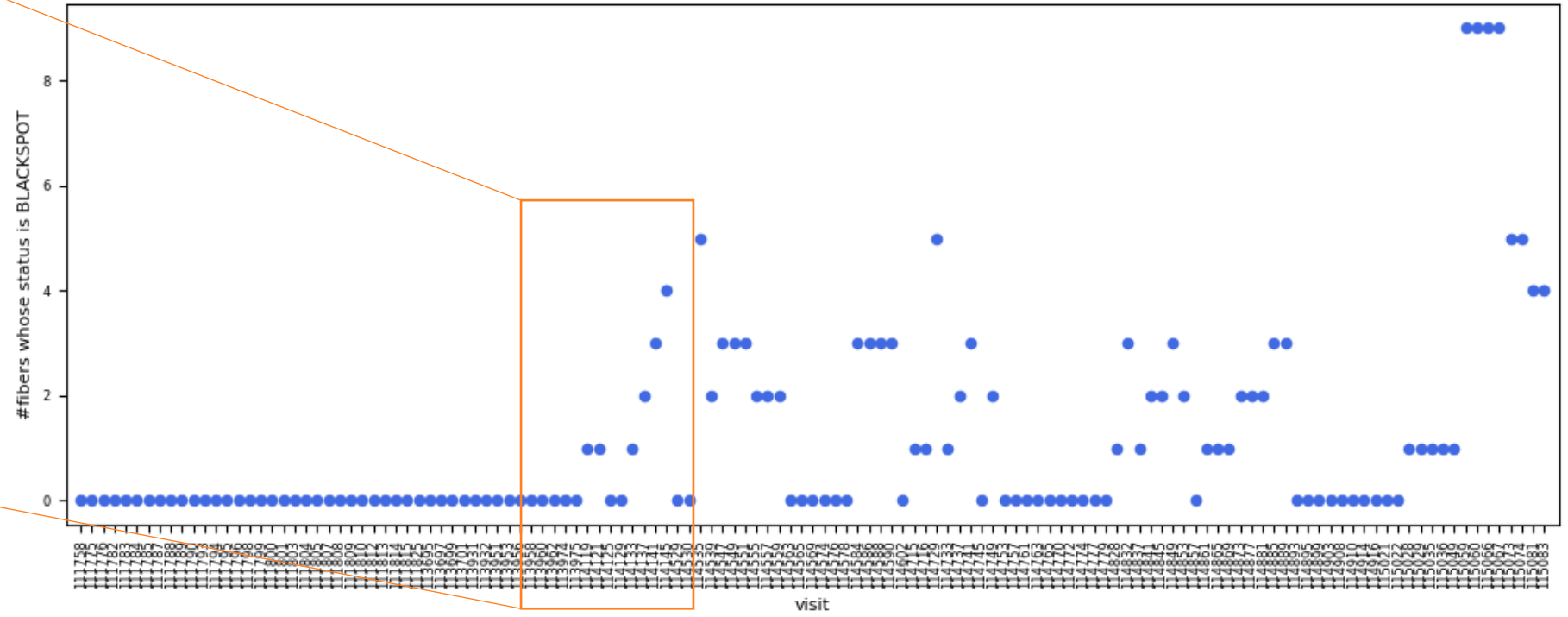
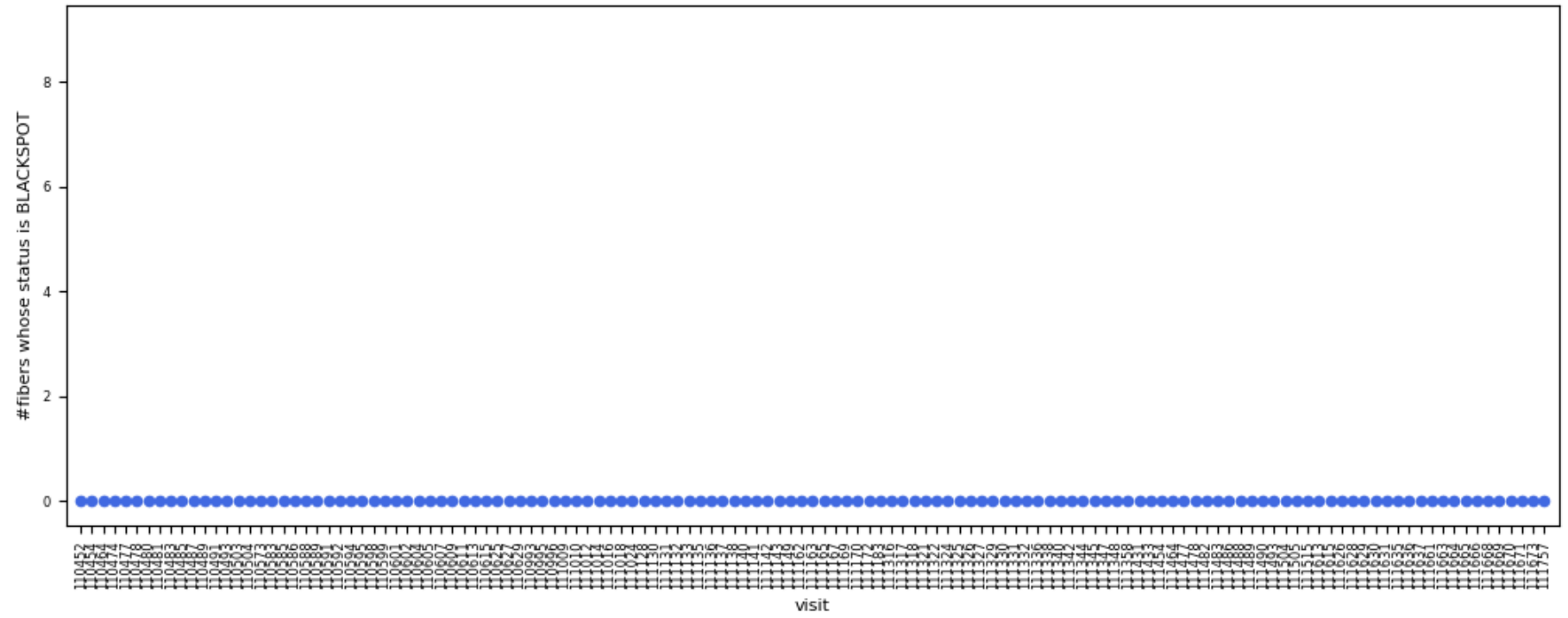
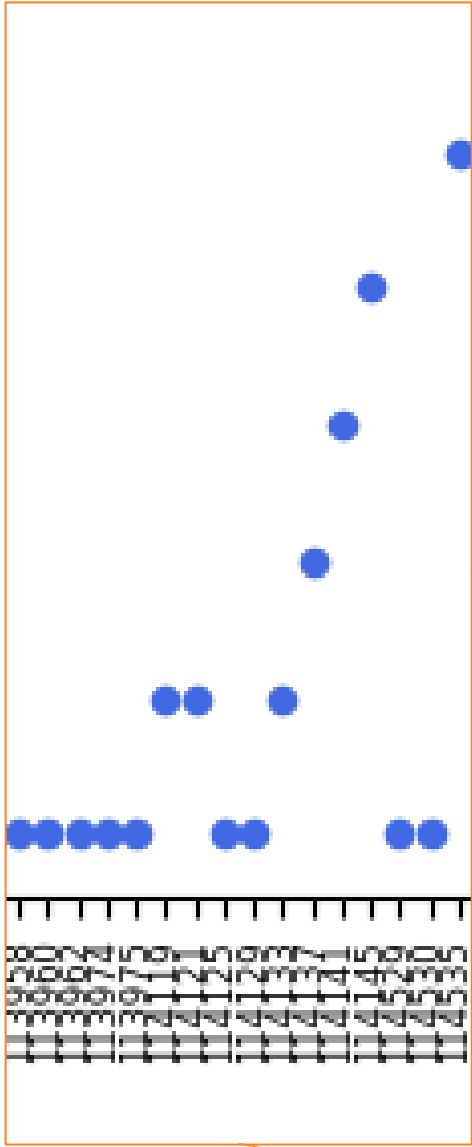
Prime
Focus
Spectrograph

Fibers flagged as “BLACKSPOT”

Yuki Moritani

Contents

- The number of the fibers flagged “BLACKSPOT” increased in the run 18.
 - There were 91 cases in total. Note that some convergences were done for the same design.
- There seems three modes in failure.
 1. Fiber flagged behind the dots didn't seem to move, or very slow to move. (54 cases)
 - But in some case the fibers moved out from the dot.
 2. Fiber was not identified when it has another fiber nearby. (28 cases)
 - There is a couple of cases where different spot was identified to a given Cobra.
 3. The registered dot position seems different from the actual position. (9 cases)
 - In addition, updated target position looks very close to the dot position.



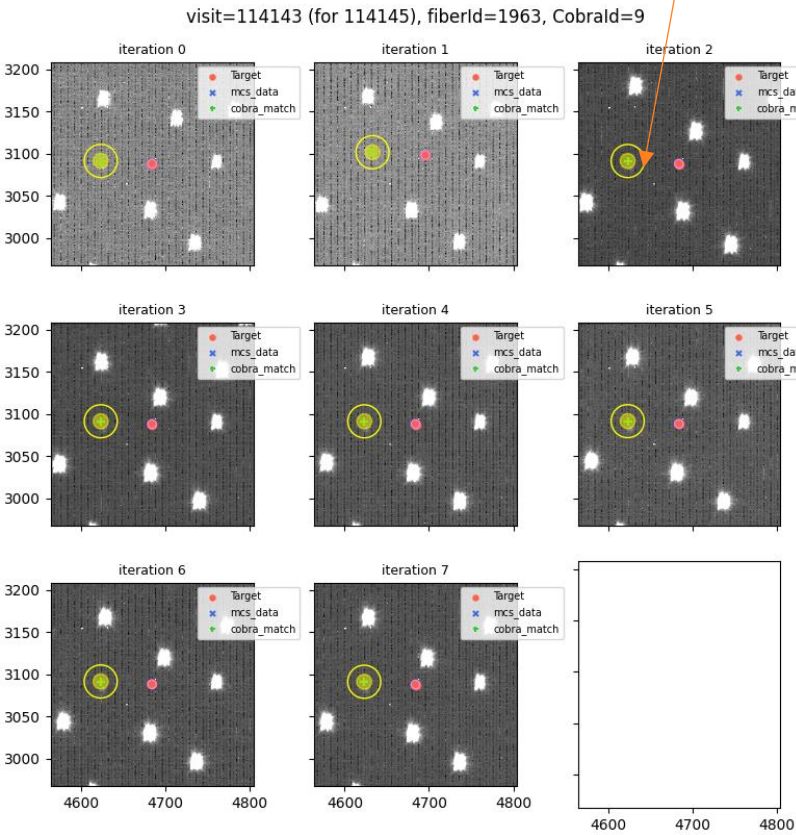
Example of each cases

See later pages for each case

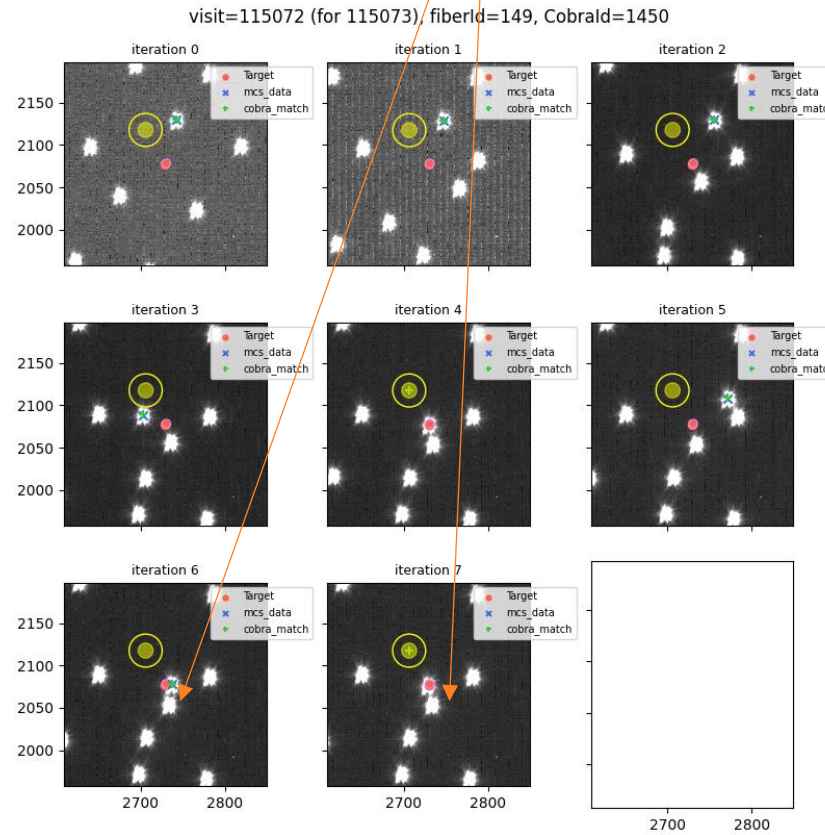
The fiber was not detected and flagged behind the dot. But the fiber spot didn't move.

The fiber was identified at some iteration, but not identified other iteration.

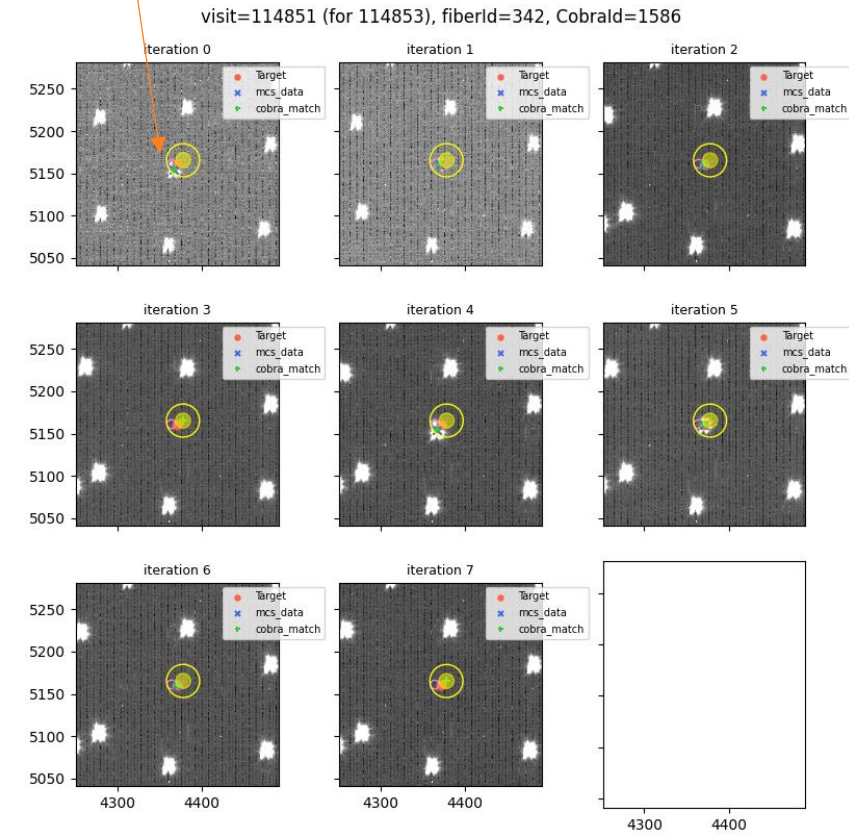
Updated target position is close to the dot



Case 1



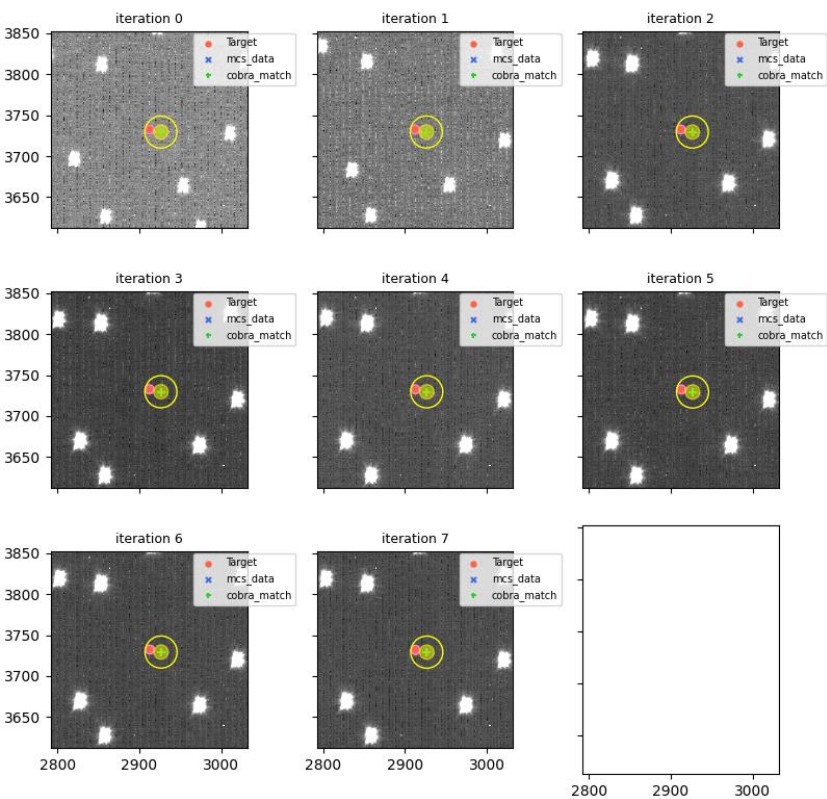
Case 2



Case 3

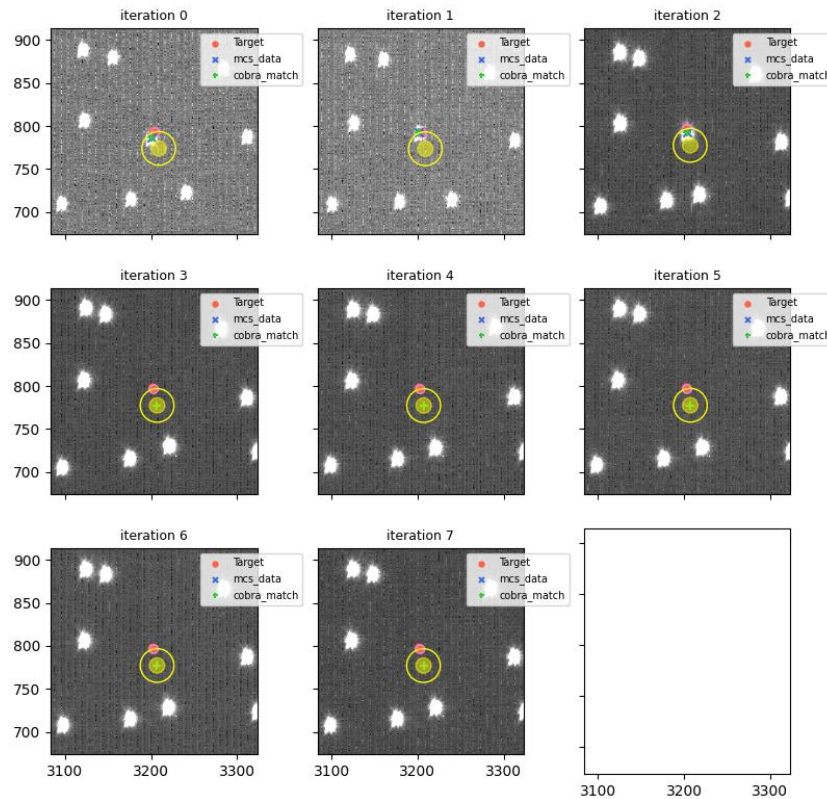
Case 1: fiber is behind the dot

visit=114108 (for 114119), fiberId=1695, Cobrald=552



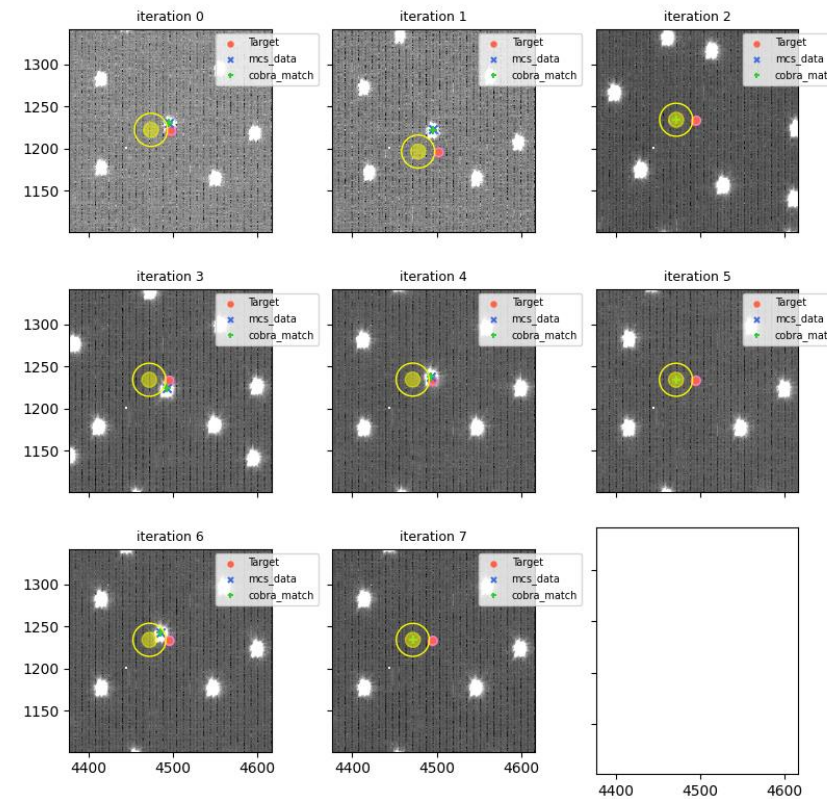
Fiber didn't move even after it was flagged behind the dot.

visit=114131 (for 114133), fiberId=344, Cobrald=1588

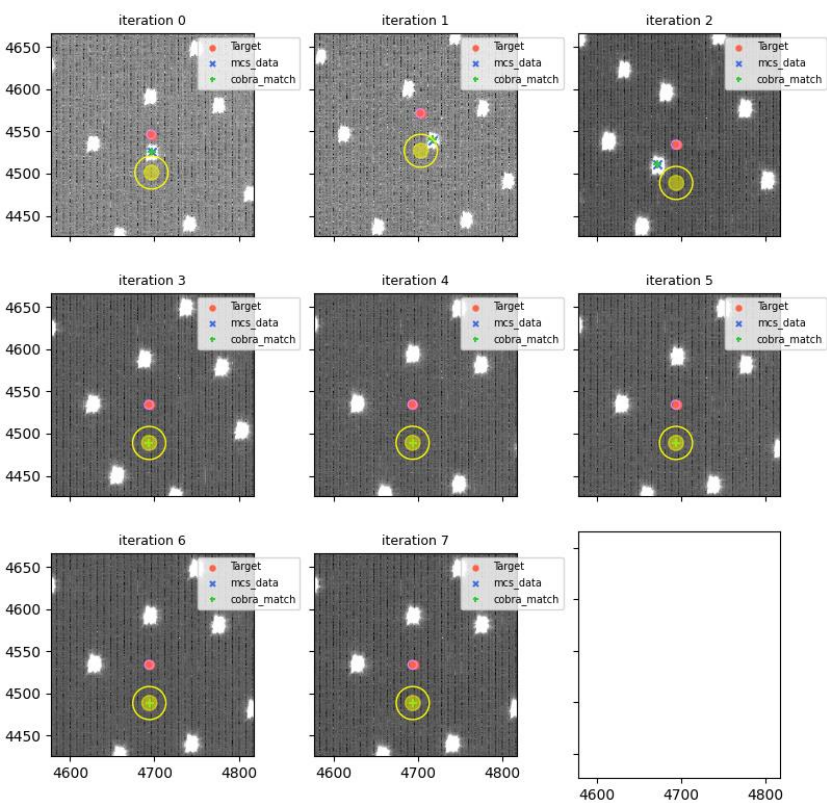


Fiber didn't move even after it was flagged behind the dot.

visit=114135 (for 114137), fiberId=1437, Cobrald=1324

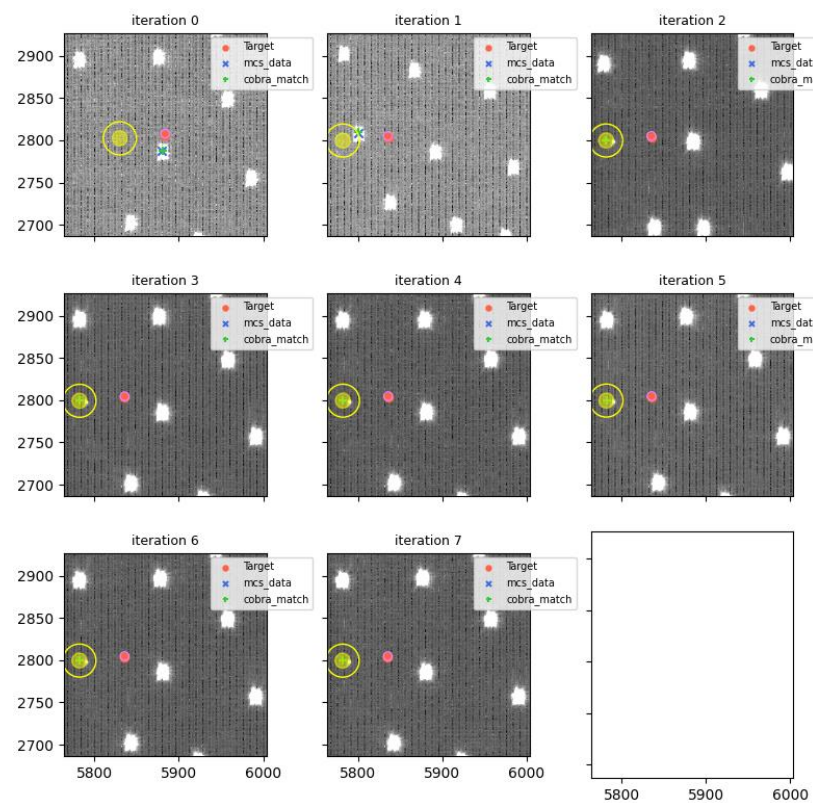


visit=114135 (for 114137), fiberId=1788, Cobrald=328



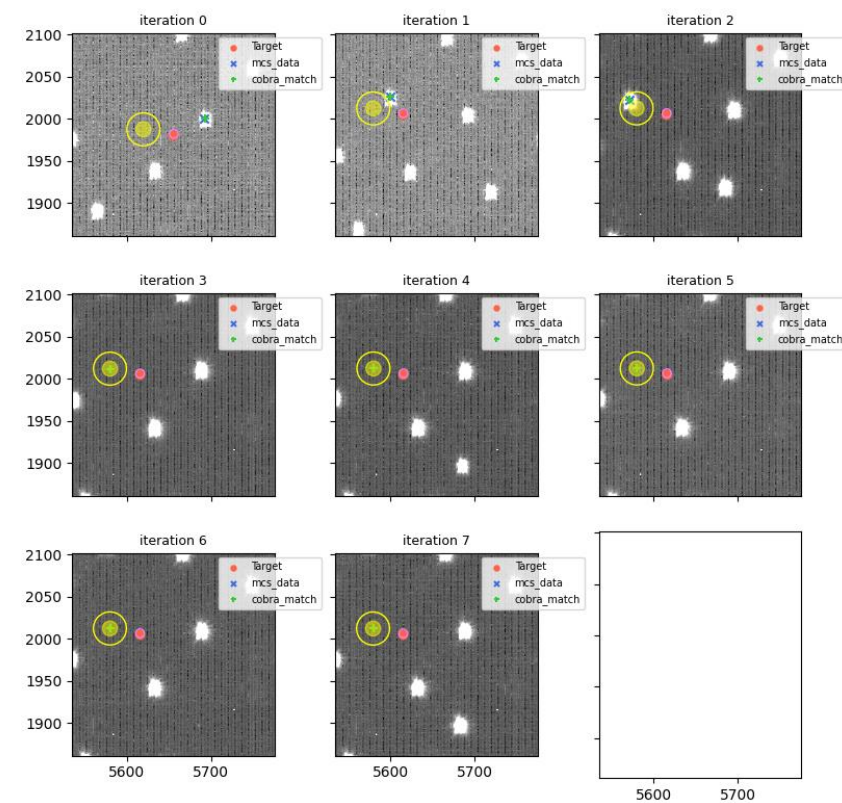
Fiber didn't move even after it was flagged behind the dot.

visit=114139 (for 114141), fiberId=645, Cobrald=2019



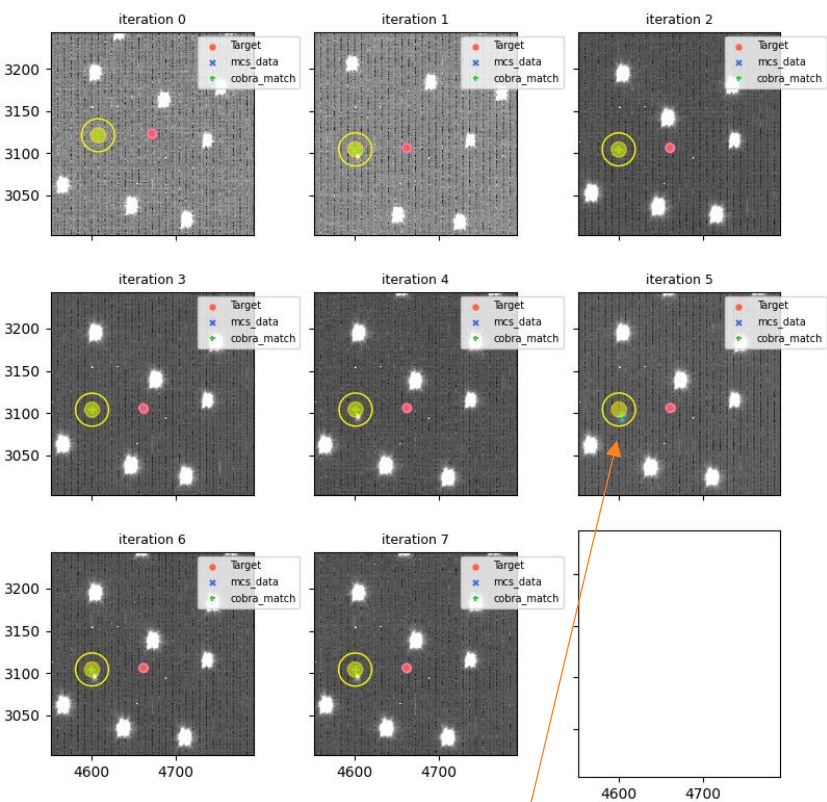
Fiber didn't move even after it was flagged behind the dot.

visit=114139 (for 114141), fiberId=1838, Cobrald=1916



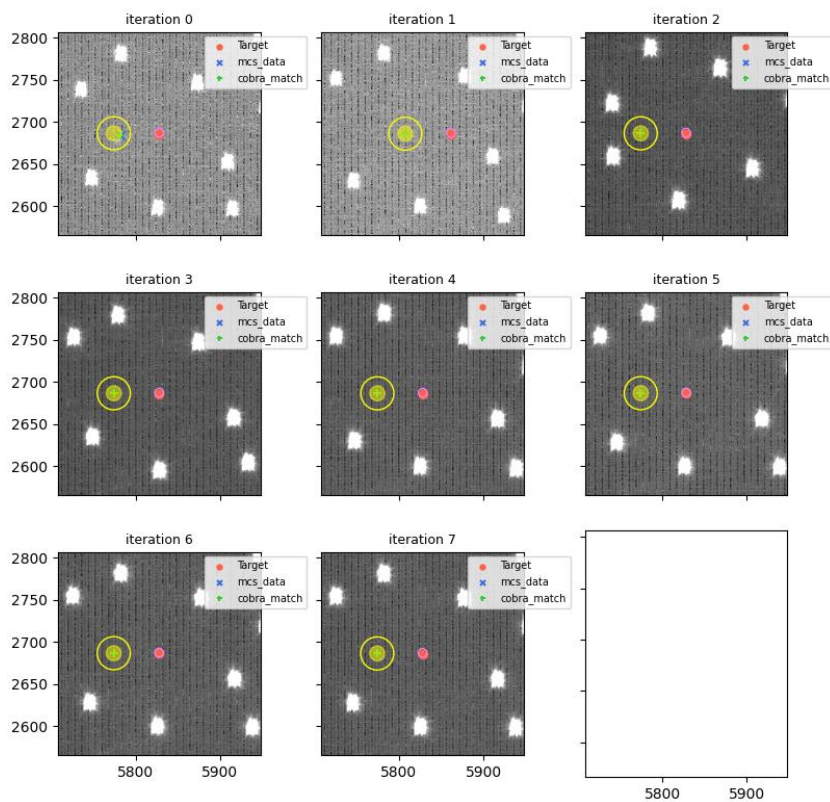
Fiber didn't move even after it was flagged behind the dot.

visit=114139 (for 114141), fiberId=1963, Cobrald=9



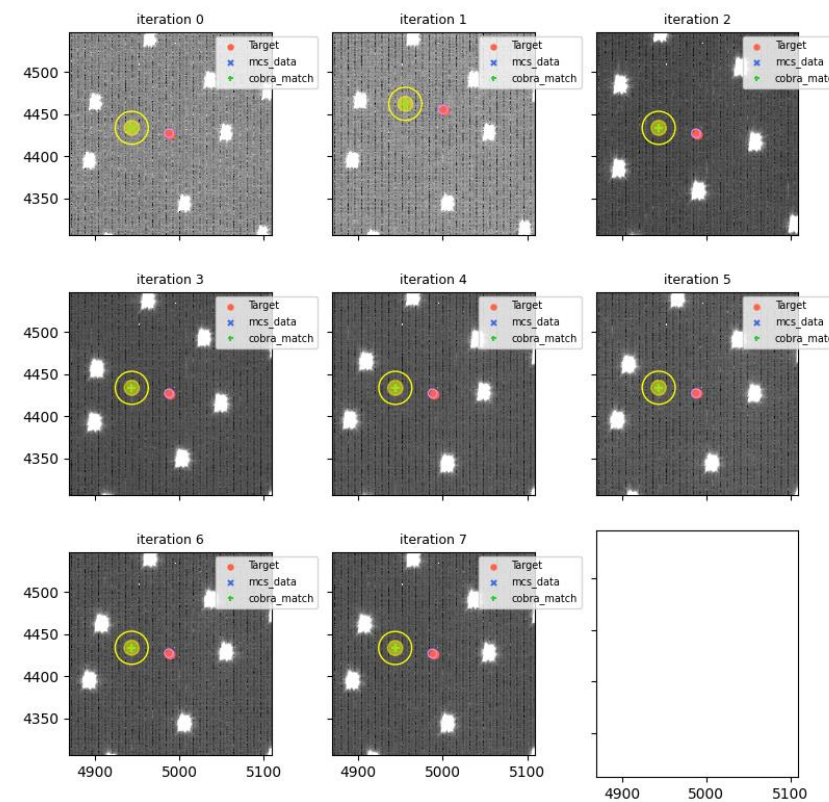
Detected, but didn't move.

visit=114143 (for 114145), fiberId=645, Cobrald=2019



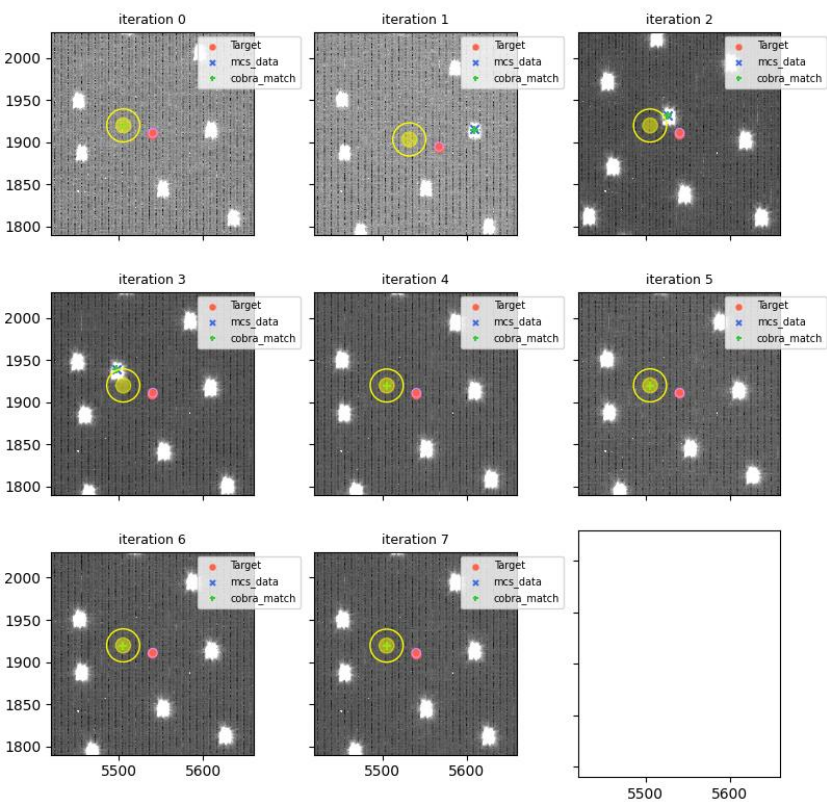
Fiber didn't move even after it was flagged behind the dot.

visit=114143 (for 114145), fiberId=1788, Cobrald=328



Fiber didn't move even after it was flagged behind the dot.

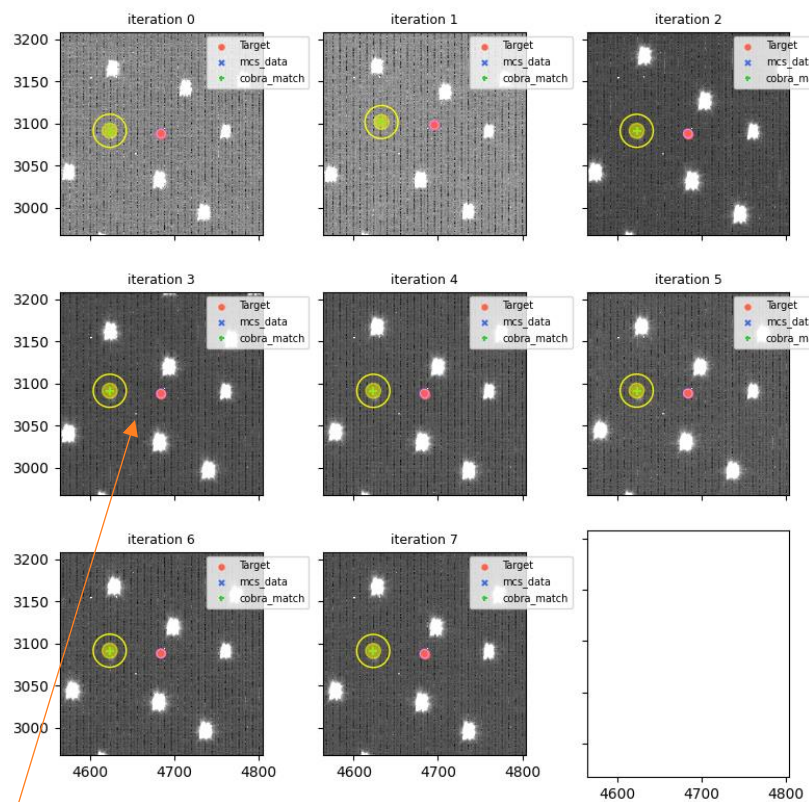
visit=114143 (for 114145), fiberId=1838, Cobrald=1916



Fiber didn't move even after it was flagged behind the dot.

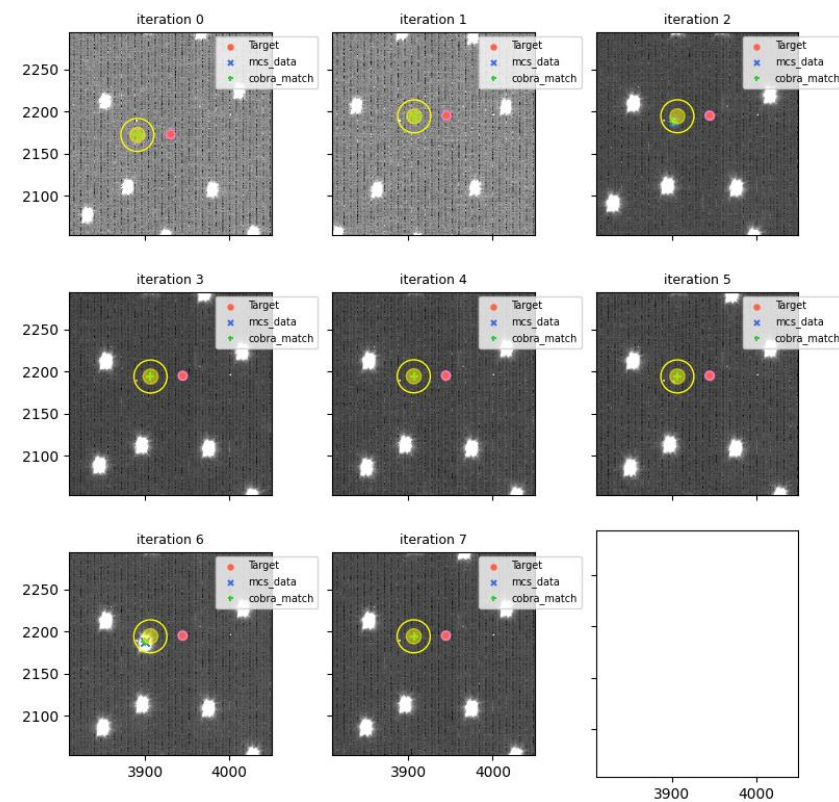
Spot didn't move indeed

visit=114143 (for 114145), fiberId=1963, Cobrald=9

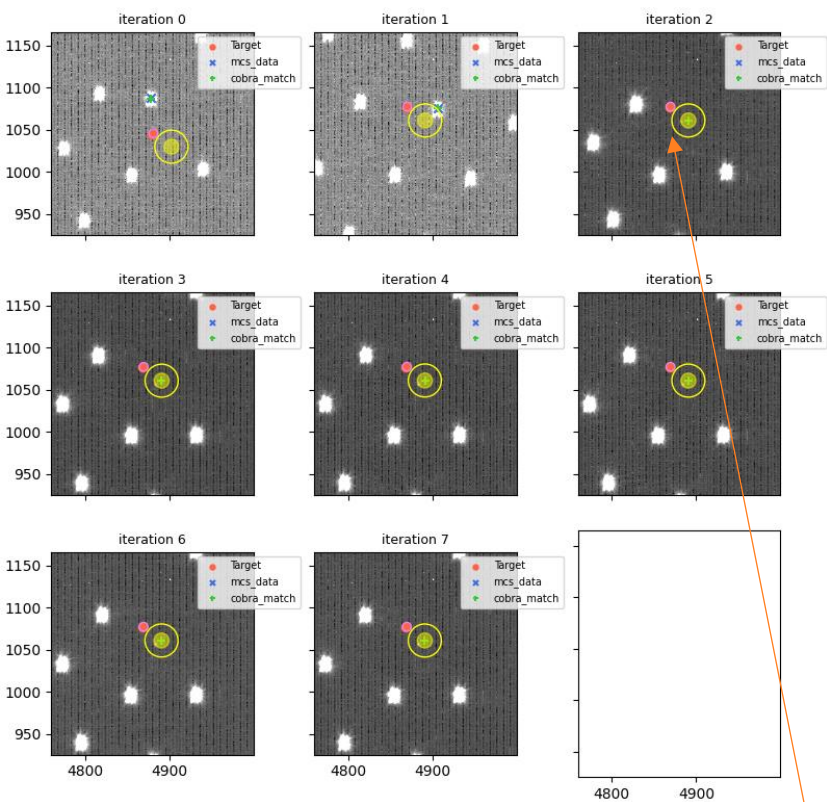


Fiber didn't move even after it was flagged behind the dot.

visit=114533 (for 114535), fiberId=50, Cobrald=987



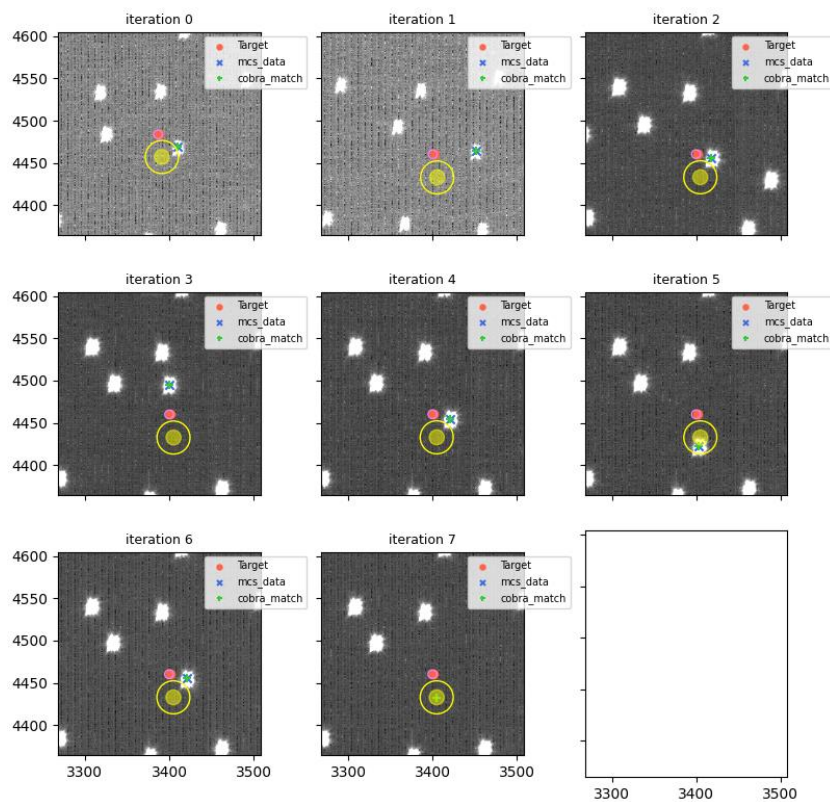
visit=114533 (for 114535), fiberId=782, Cobrald=1377



Fiber didn't move even after it was flagged behind the dot.

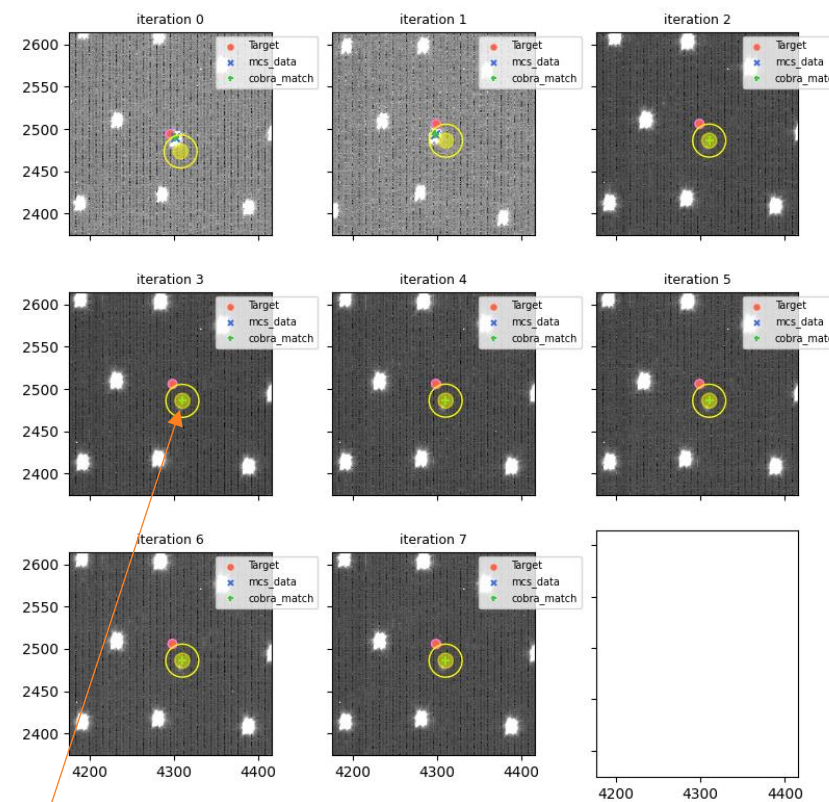
Spot didn't move indeed

visit=114533 (for 114535), fiberId=1043, Cobrald=608



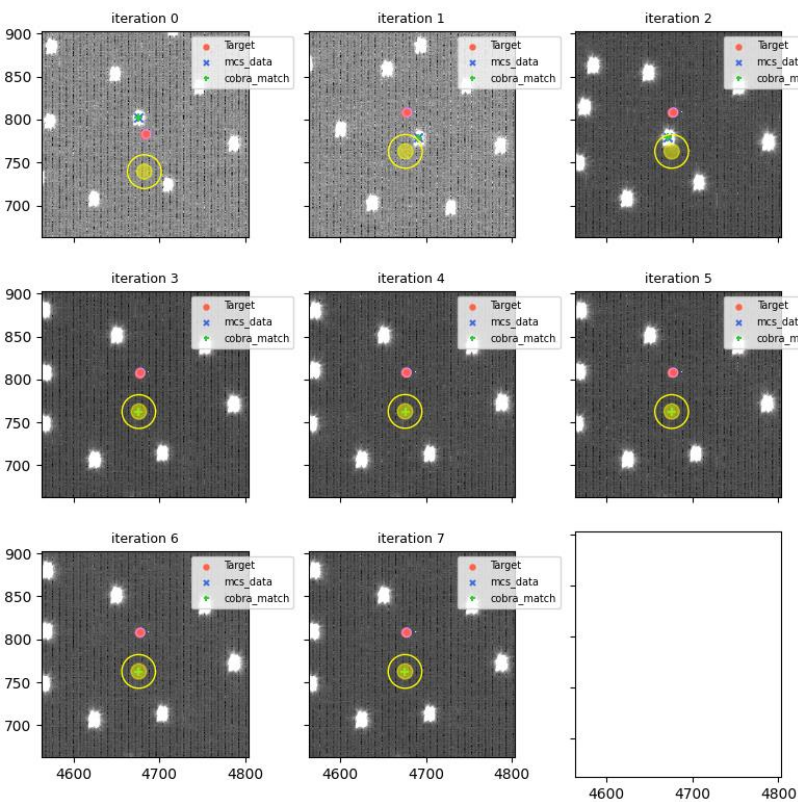
Spot didn't move indeed

visit=114533 (for 114535), fiberId=1338, Cobrald=861



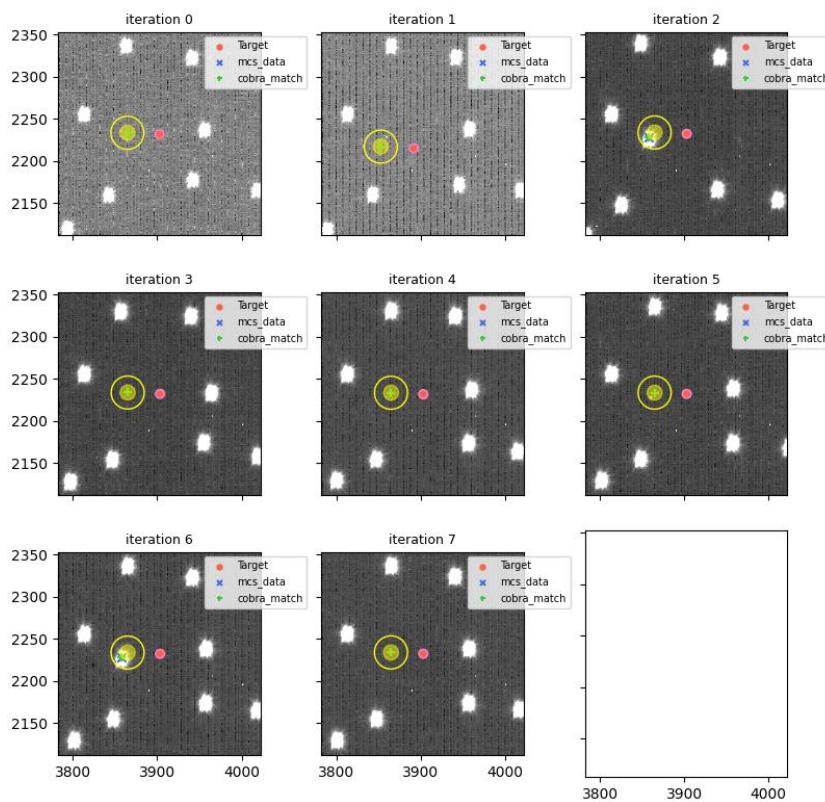
Fiber didn't move even after it was flagged behind the dot.

visit=114533 (for 114535), fiberId=2293, Cobrald=1499

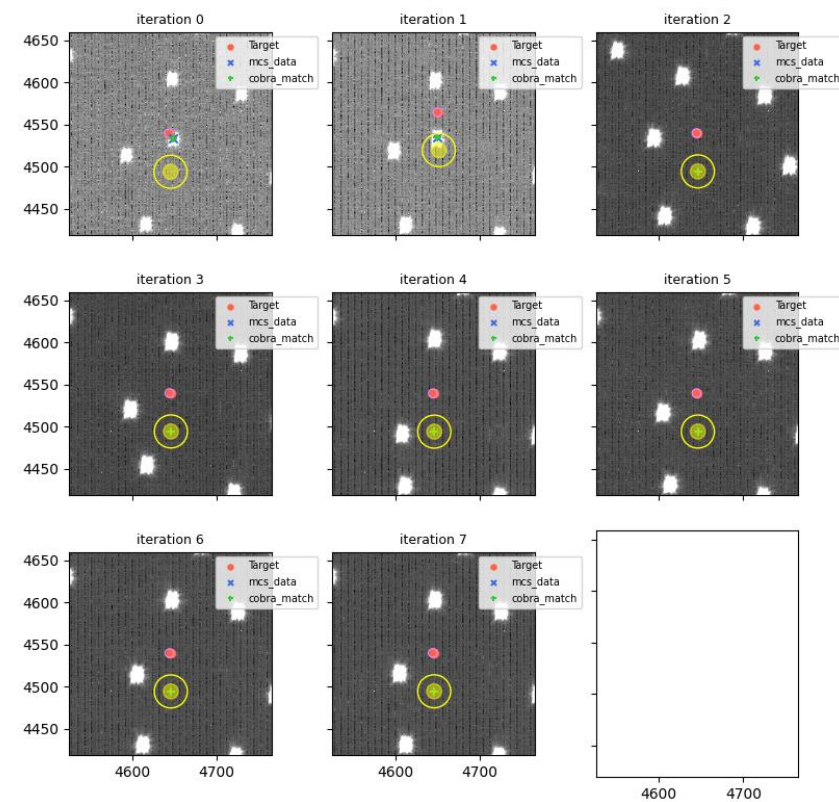


Fiber didn't move even after it was flagged behind the dot.

visit=114537 (for 114539), fiberId=50, Cobrald=987

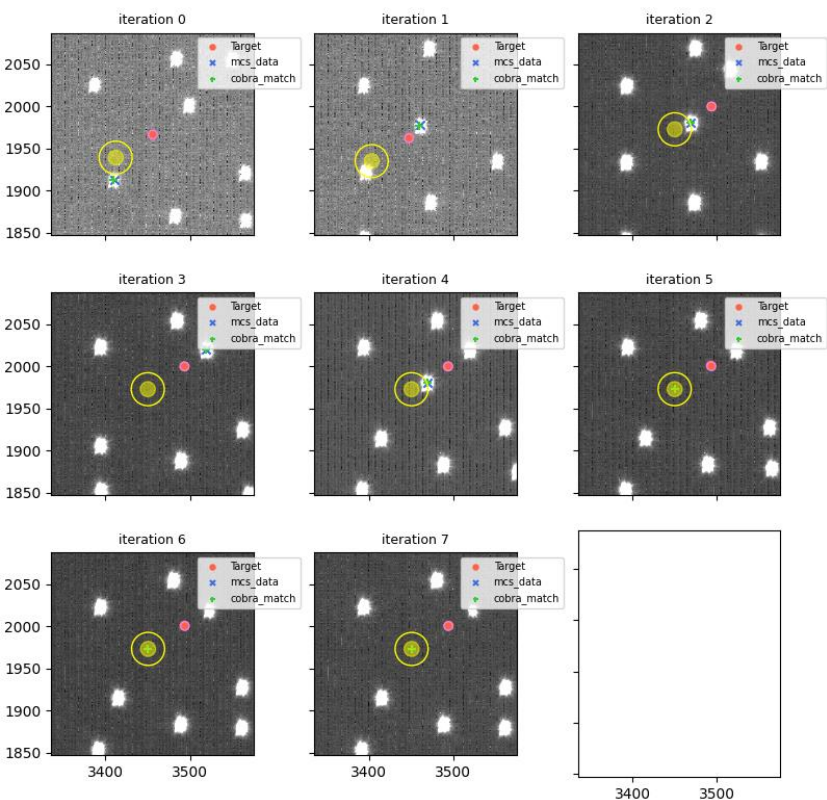


visit=114537 (for 114539), fiberId=1788, Cobrald=328



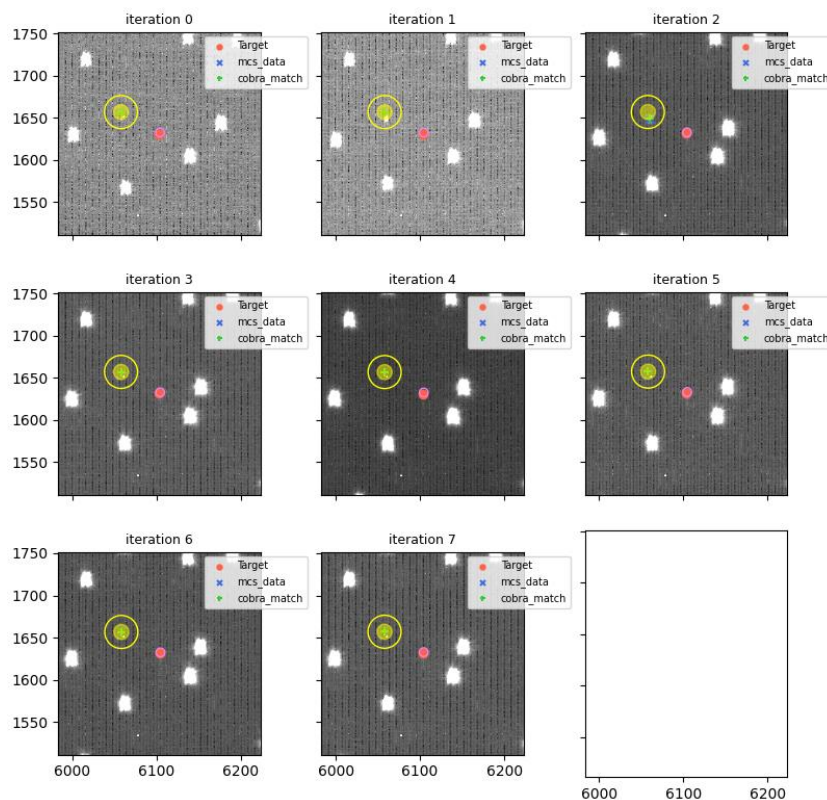
Fiber didn't move even after it was flagged behind the dot.

visit=114545 (for 114547), fiberId=617, Cobrald=1222



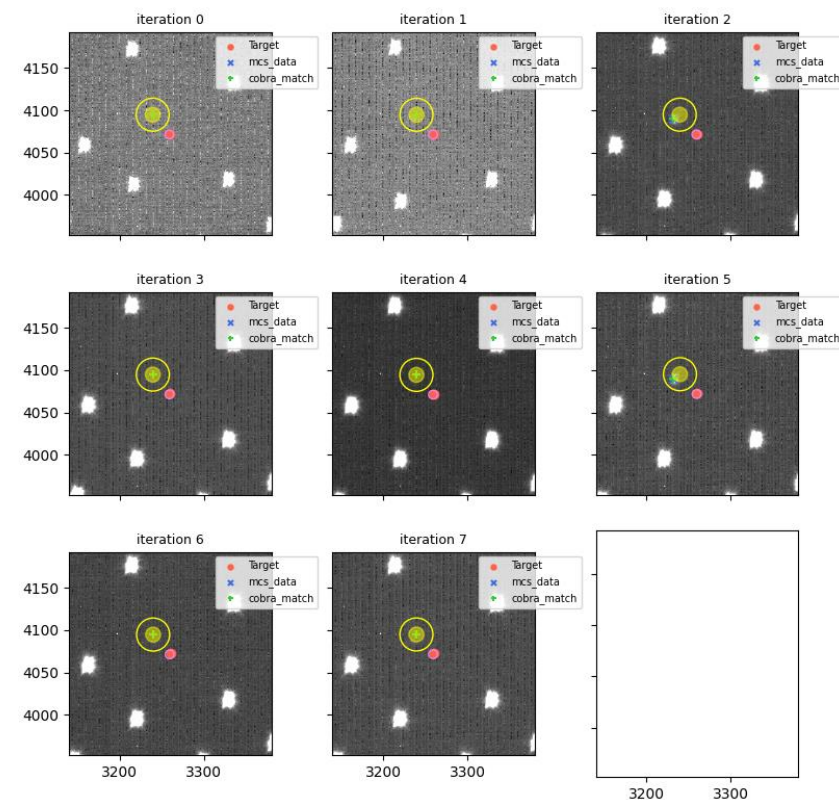
Fiber didn't move even after it was flagged behind the dot.

visit=114553 (for 114555), fiberId=448, Cobrald=2259

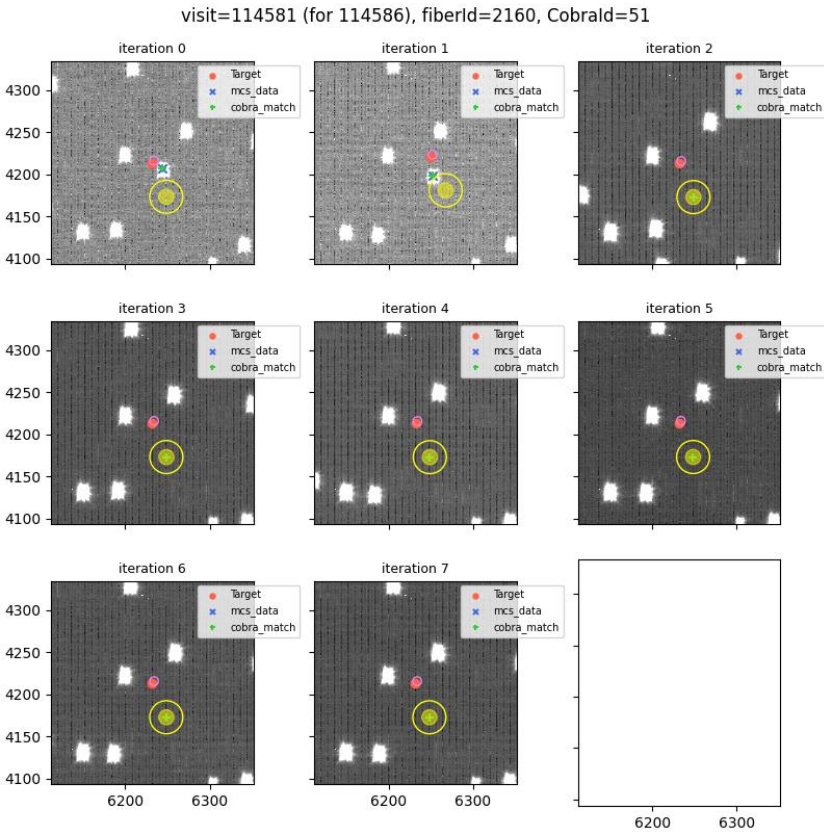


Fiber didn't move even after it was flagged behind the dot.

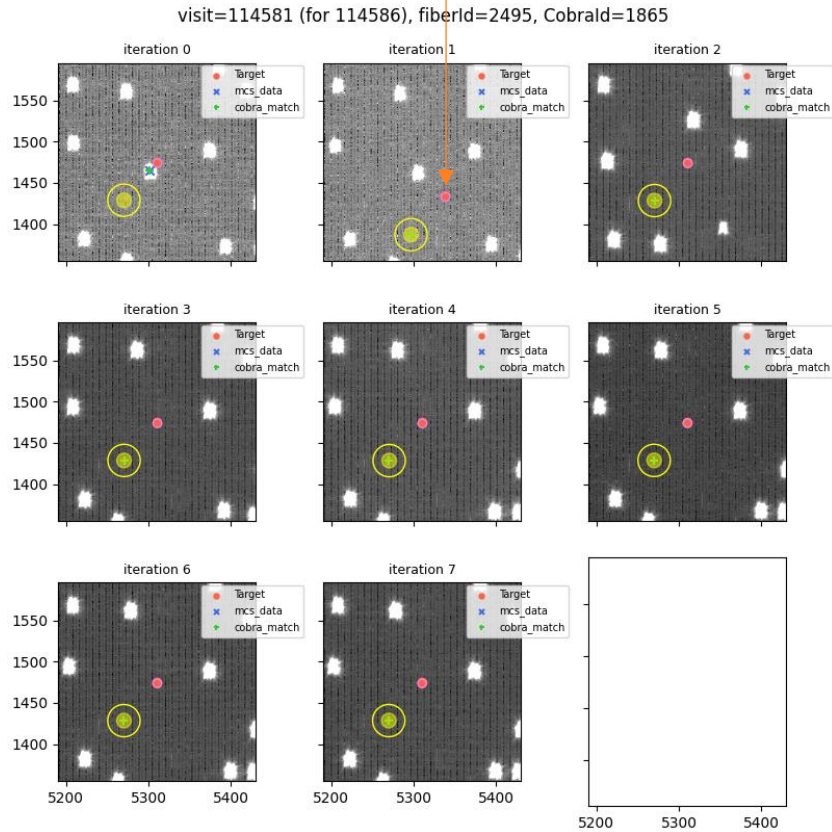
visit=114553 (for 114555), fiberId=2176, Cobrald=837



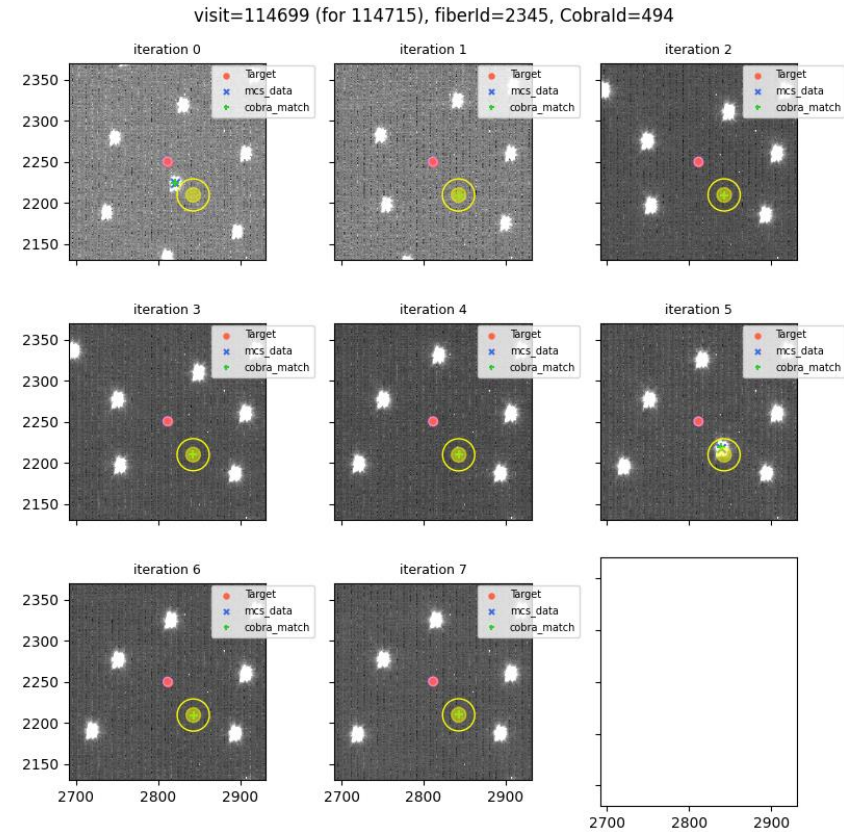
Target position changed?



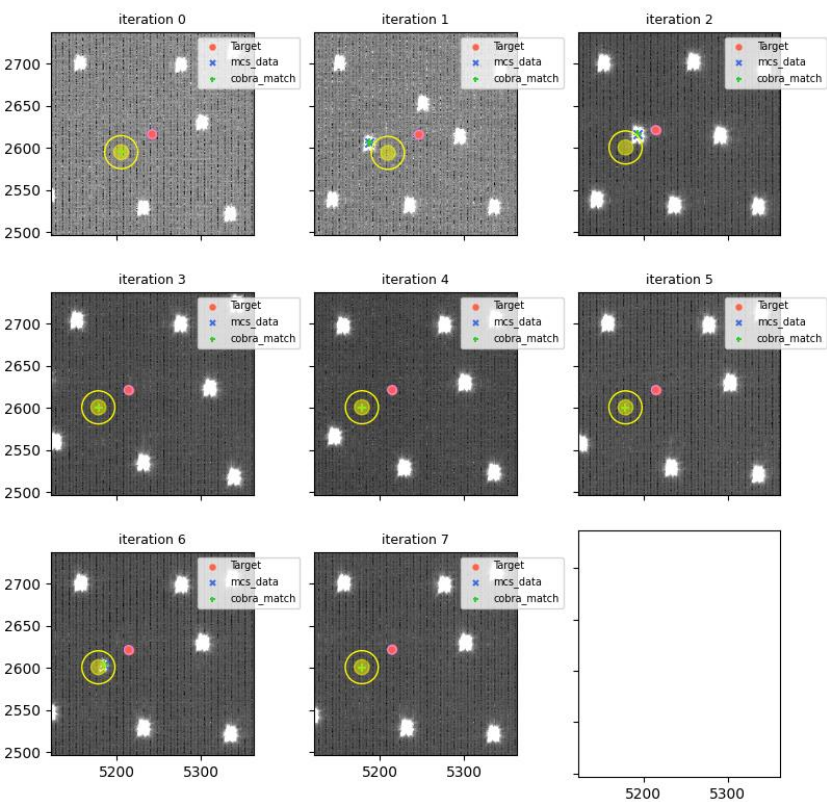
Fiber didn't move even after it was flagged behind the dot.



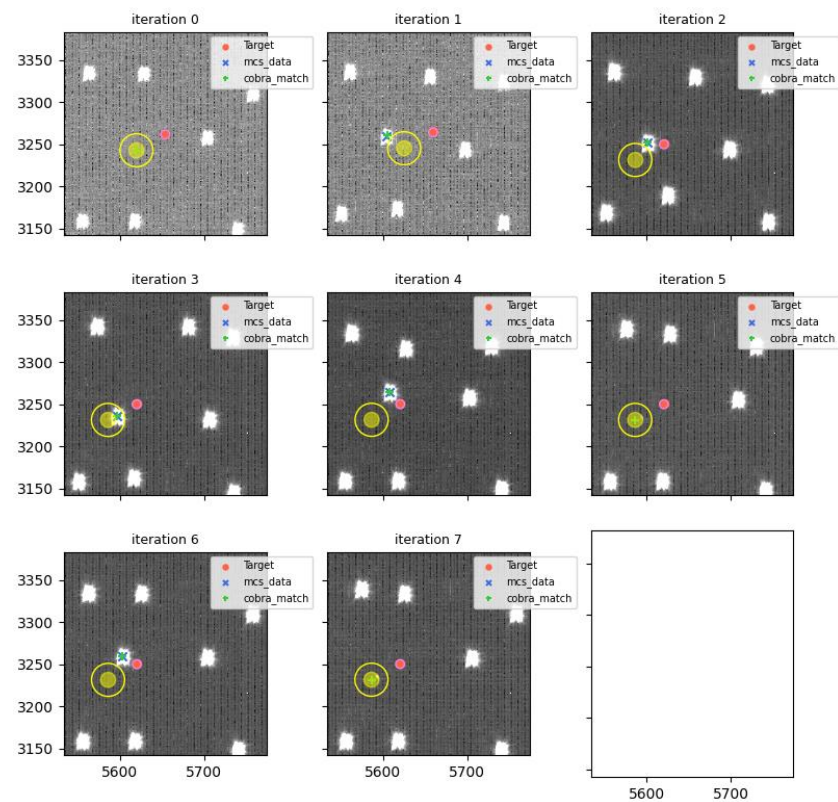
Fiber didn't move even after it was flagged behind the dot.



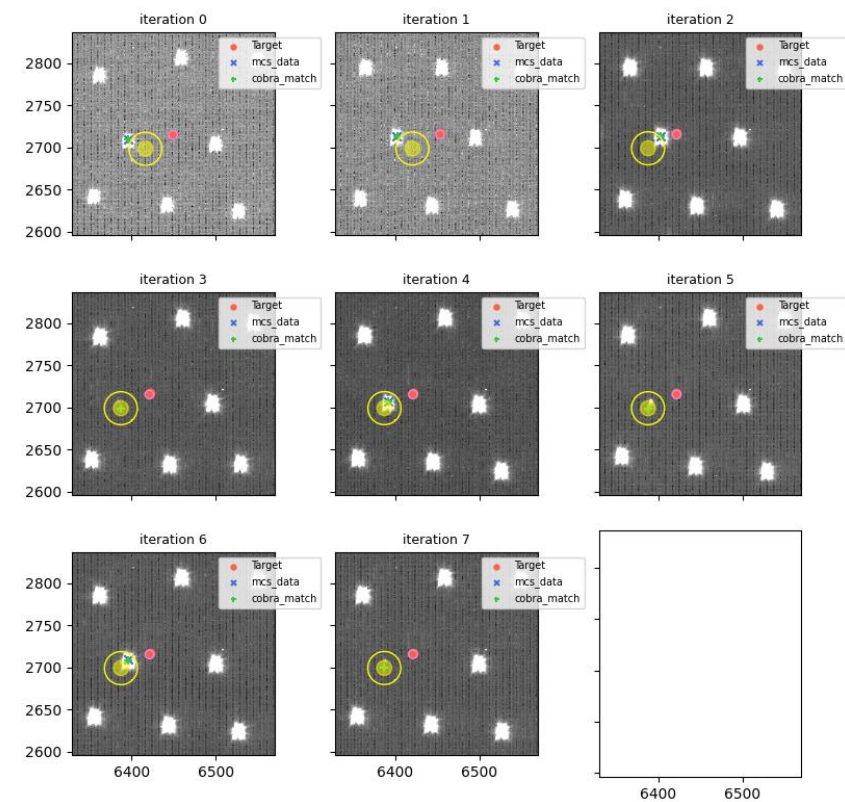
visit=114727 (for 114729), fiberId=80, Cobrald=1786



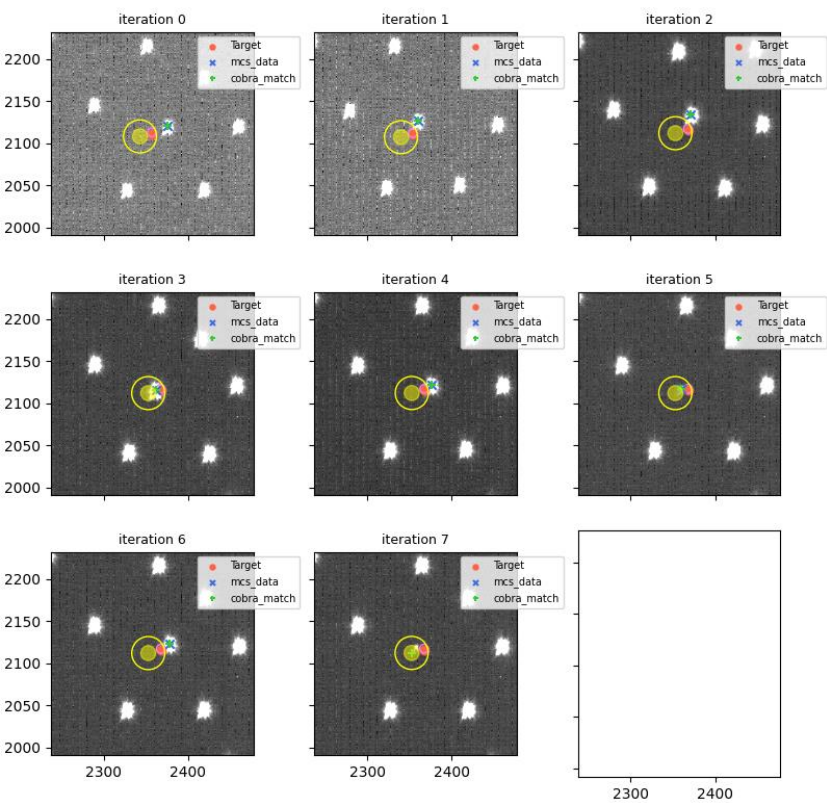
visit=114727 (for 114729), fiberId=640, Cobrald=2014



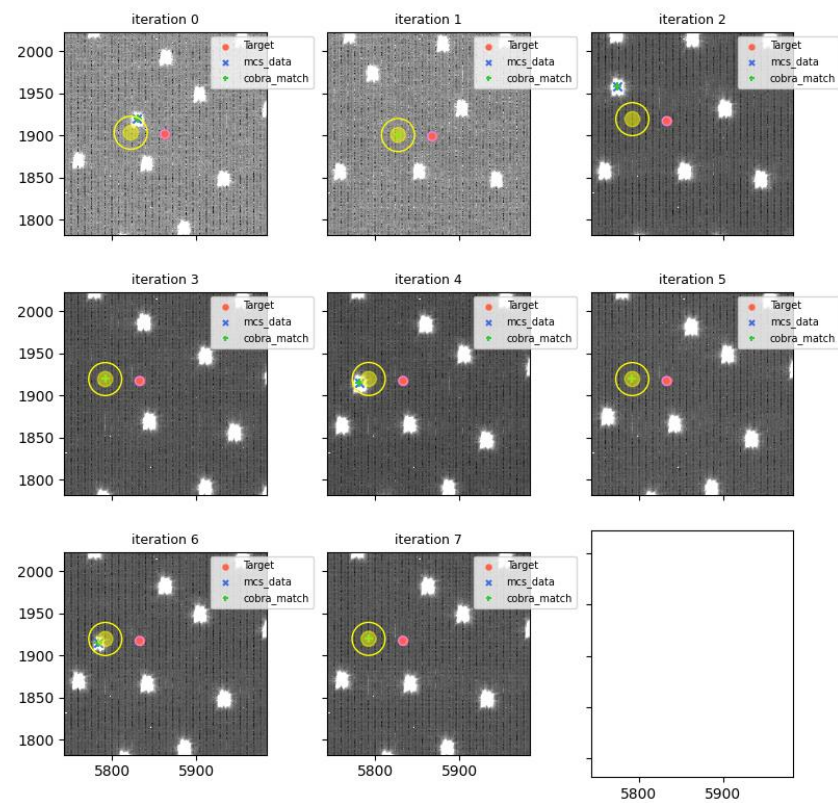
visit=114727 (for 114729), fiberId=1106, Cobrald=2209



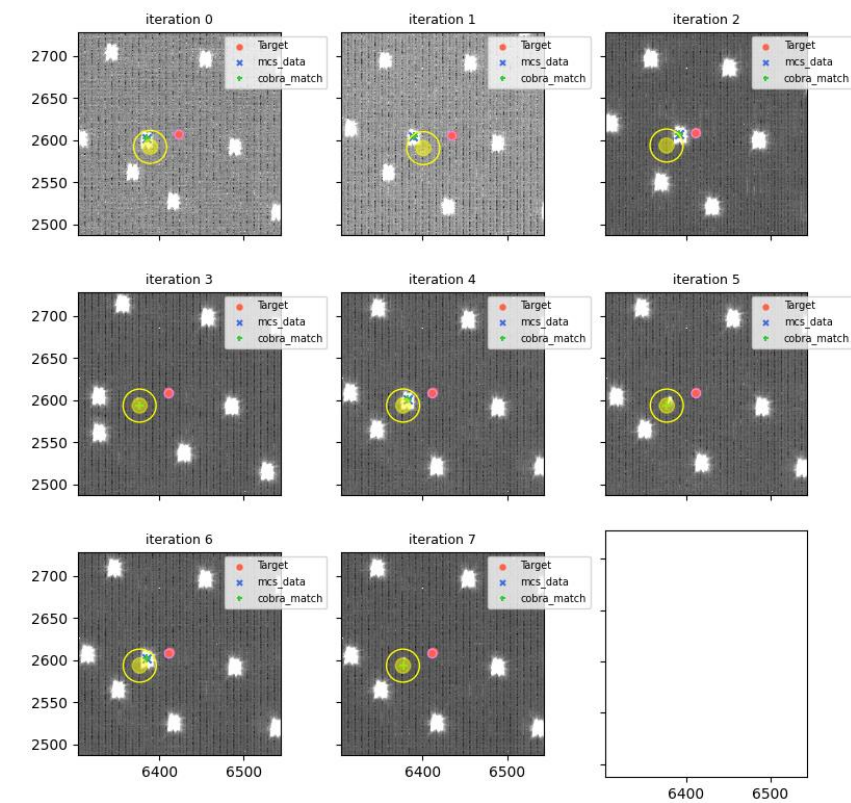
visit=114727 (for 114729), fiberId=2480, Cobrald=1080



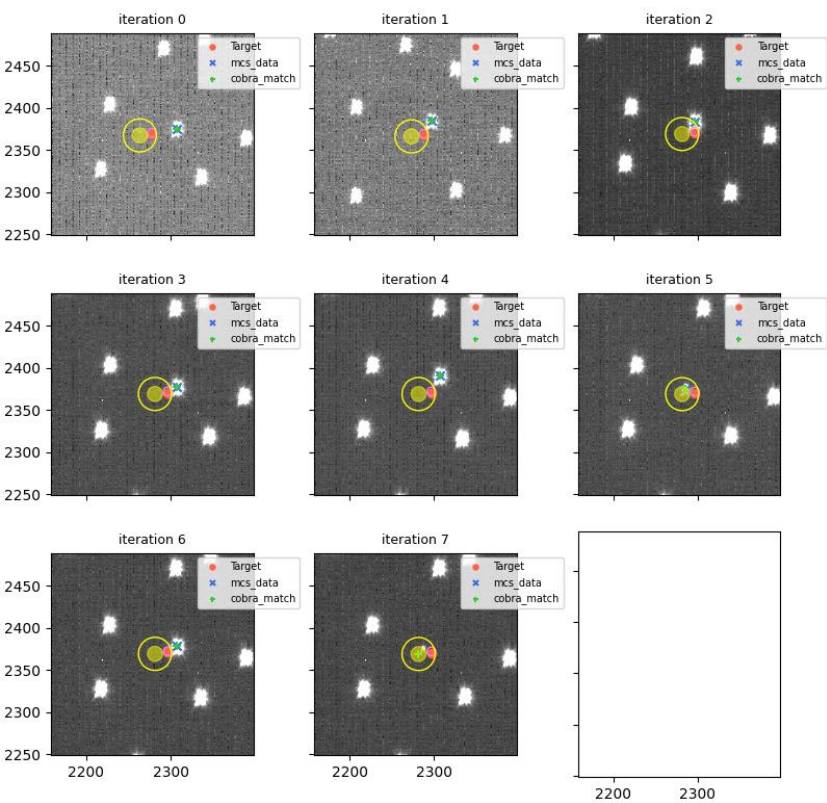
visit=114727 (for 114729), fiberId=2494, Cobrald=1864



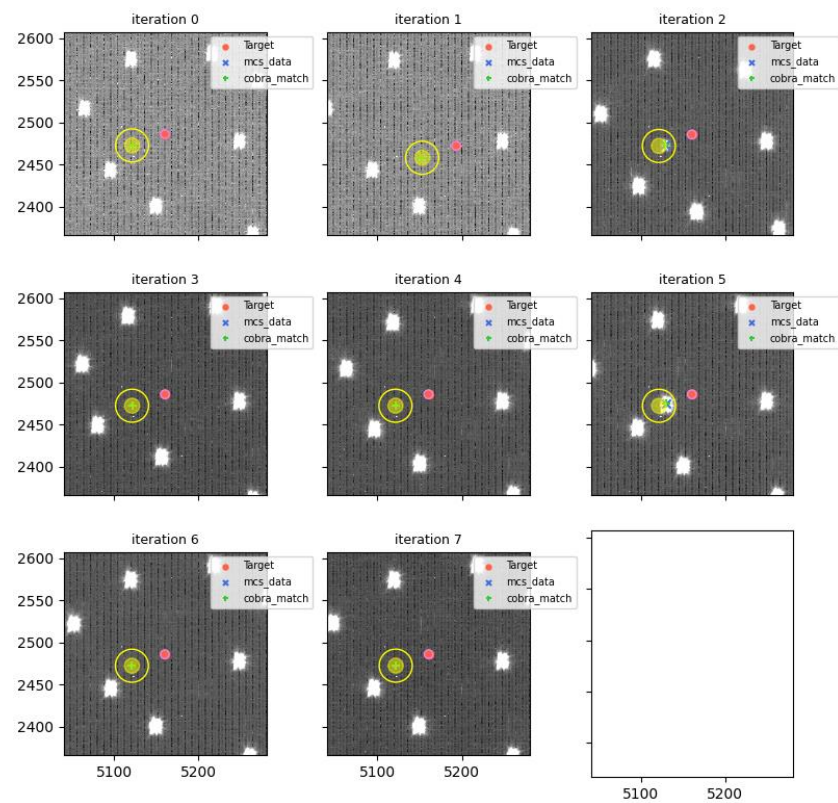
visit=114731 (for 114733), fiberId=1106, Cobrald=2209



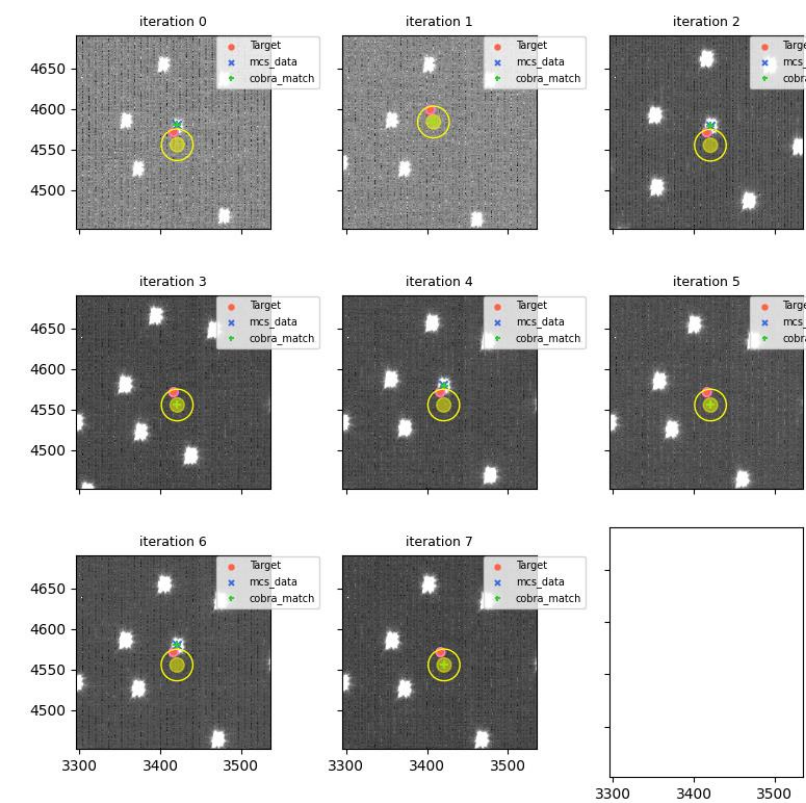
visit=114735 (for 114737), fiberId=2480, Cobrald=1080



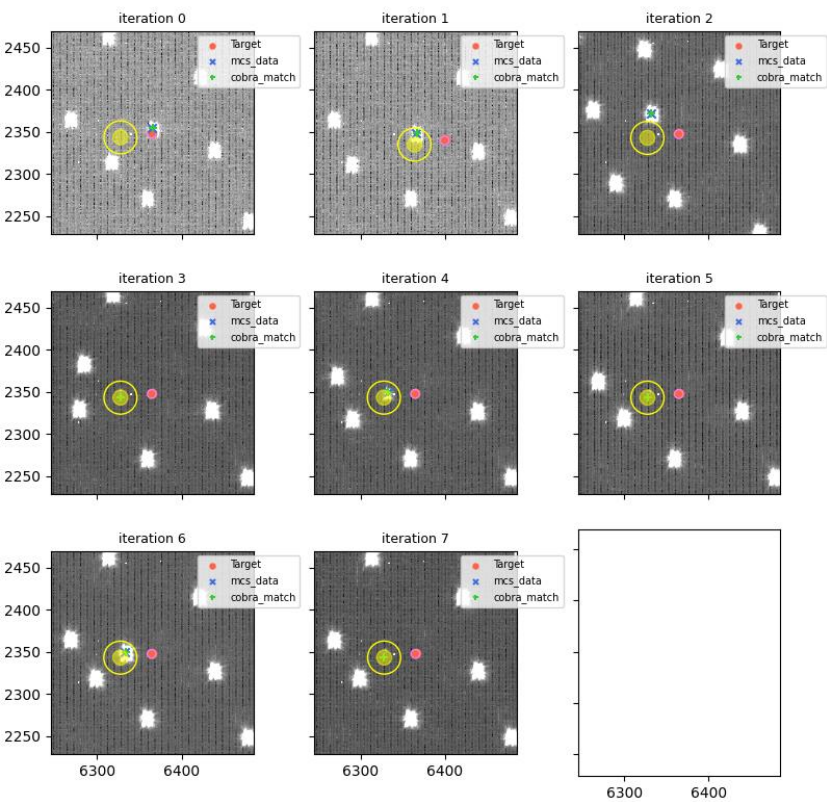
visit=114739 (for 114741), fiberId=80, Cobrald=1786



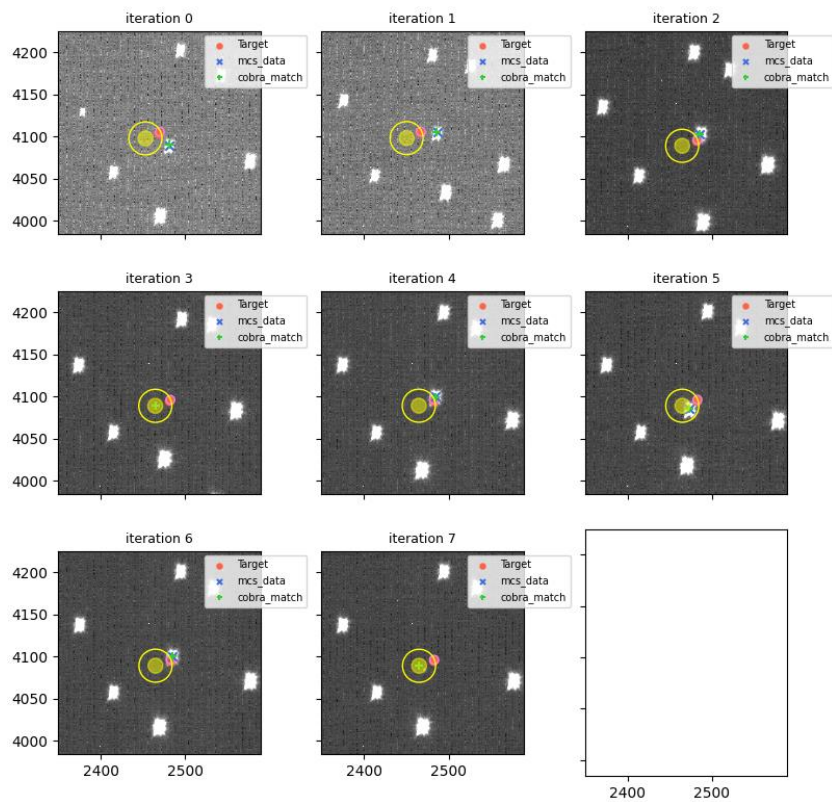
visit=114739 (for 114741), fiberId=390, Cobrald=663



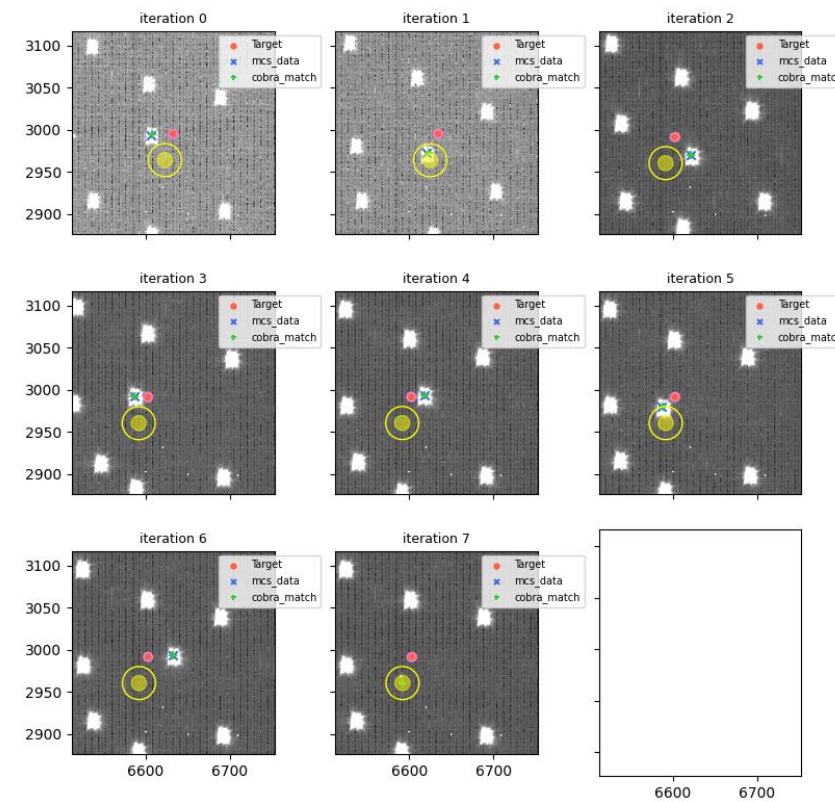
visit=114739 (for 114741), fiberId=1106, Cobrald=2209



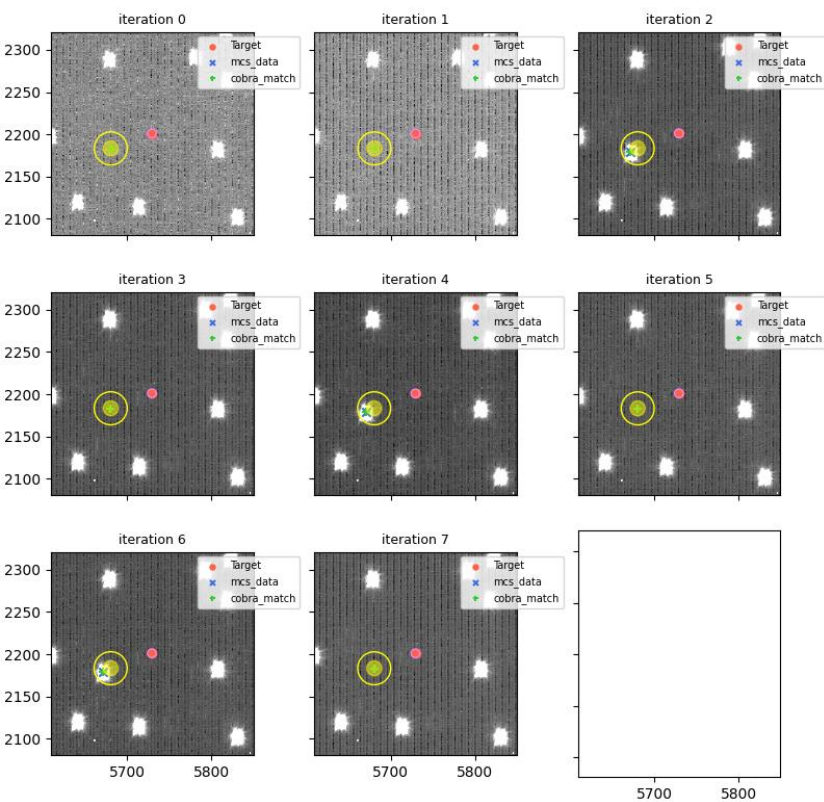
visit=114747 (for 114749), fiberId=1584, Cobrald=750



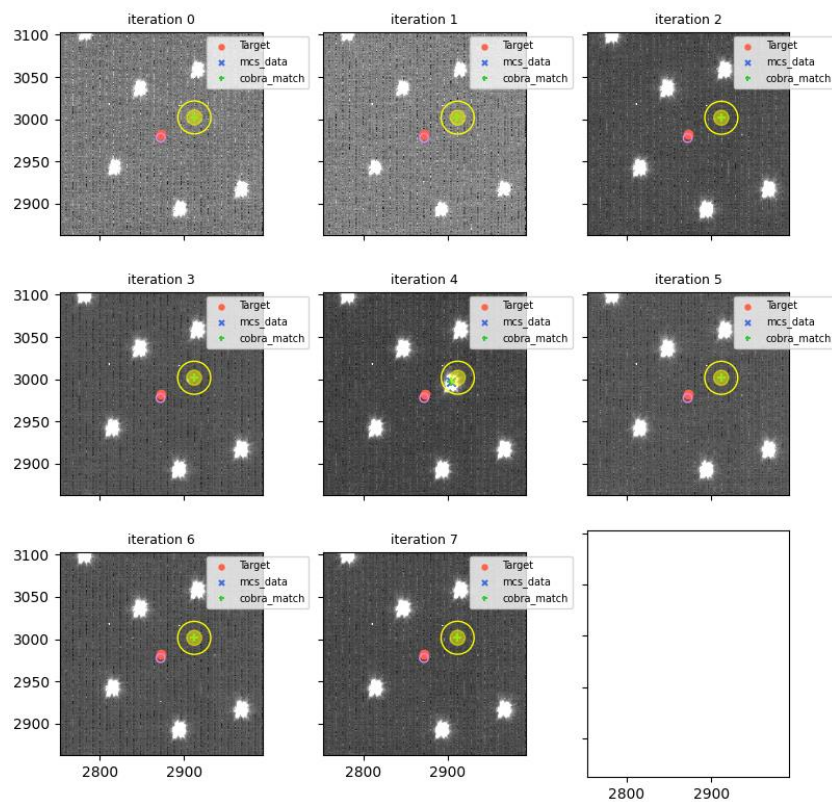
visit=114747 (for 114749), fiberId=1683, Cobrald=2366



visit=114817 (for 114828), fiberId=1838, Cobrald=1916

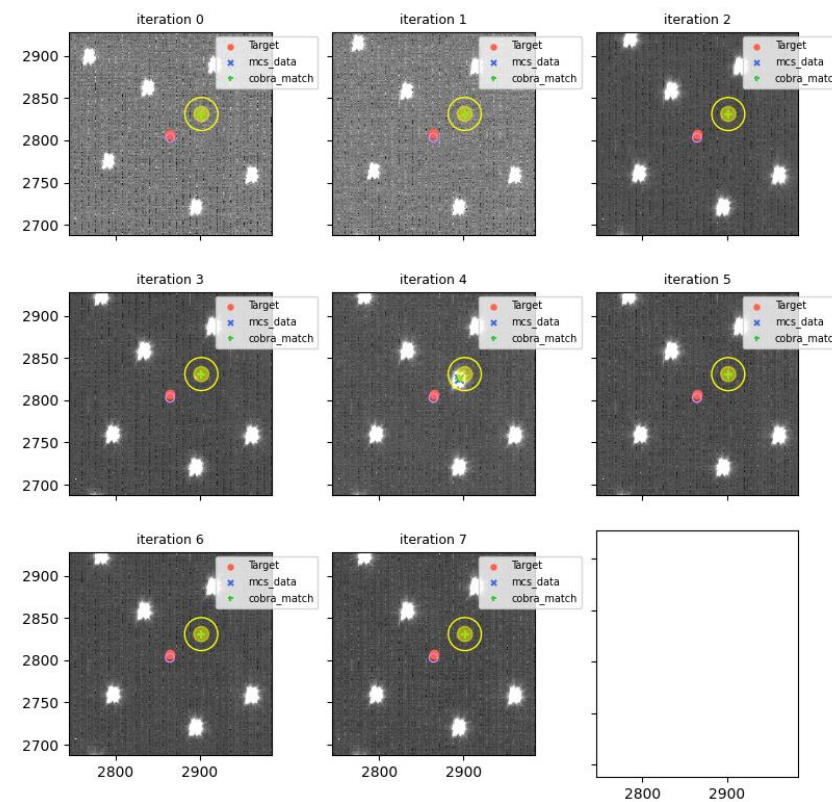


visit=114839 (for 114841), fiberId=1841, Cobrald=1919



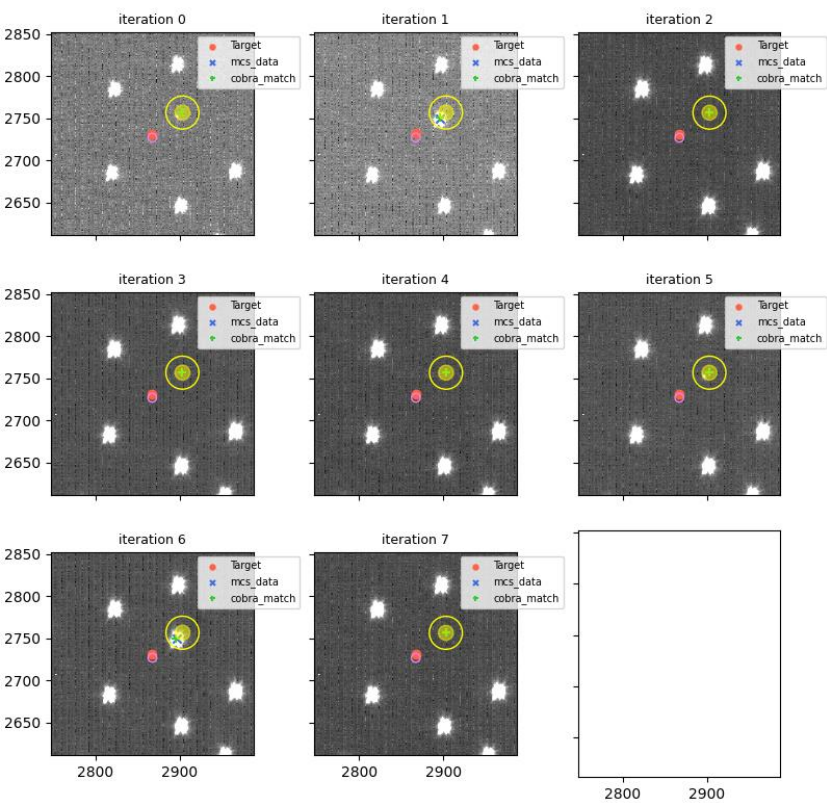
Fiber didn't move even after it was flagged behind the dot.

visit=114847 (for 114849), fiberId=1841, Cobrald=1919

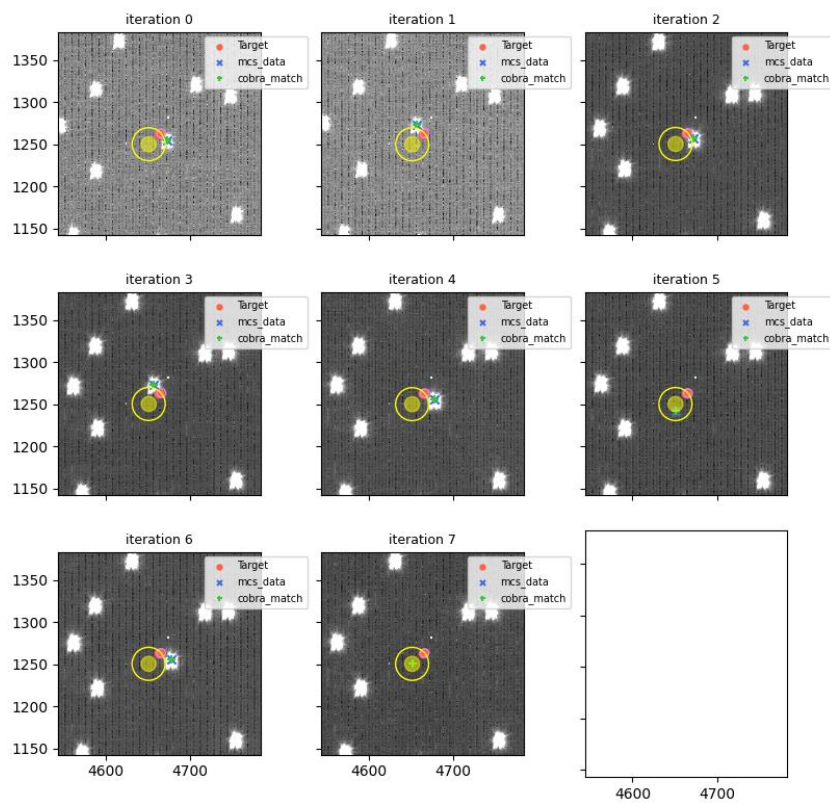


Fiber didn't move even after it was flagged behind the dot.

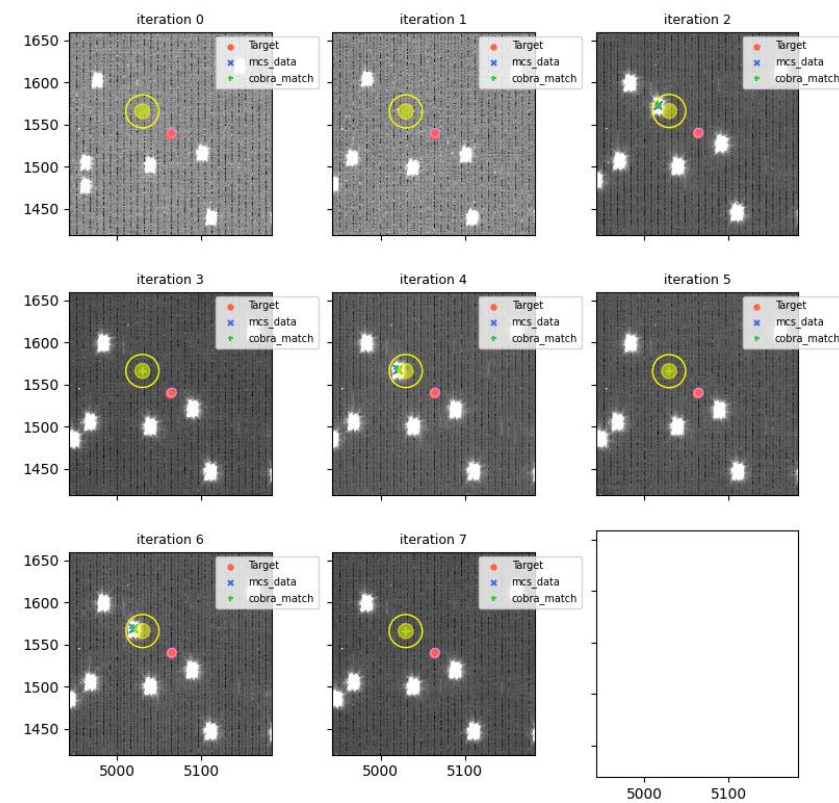
visit=114851 (for 114853), fiberId=1841, Cobrald=1919



visit=114859 (for 114861), fiberId=903, Cobrald=1748

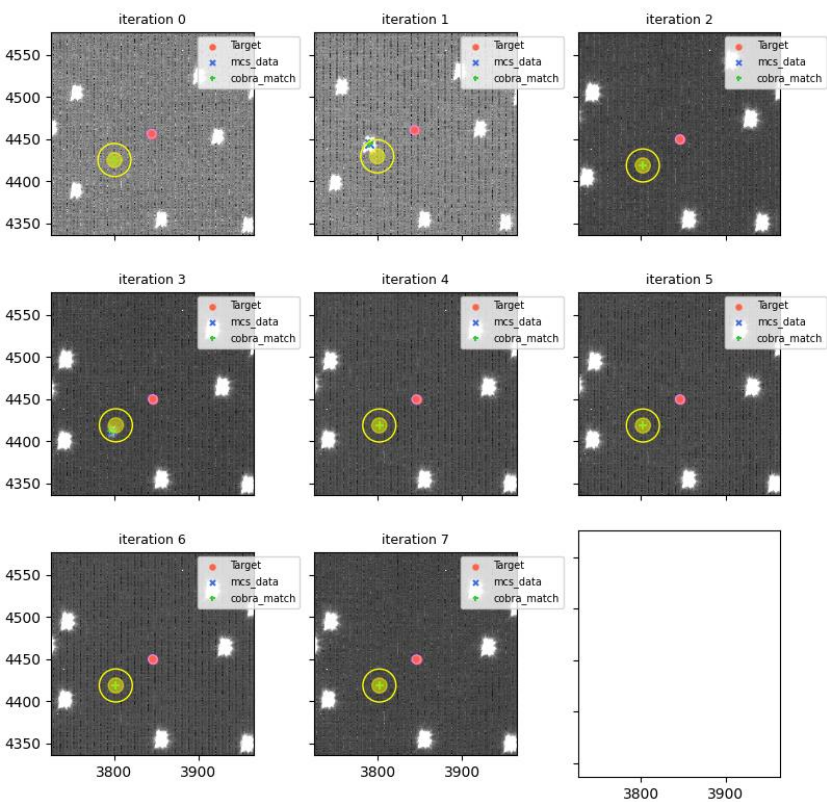


visit=114863 (for 114865), fiberId=1838, Cobrald=1916

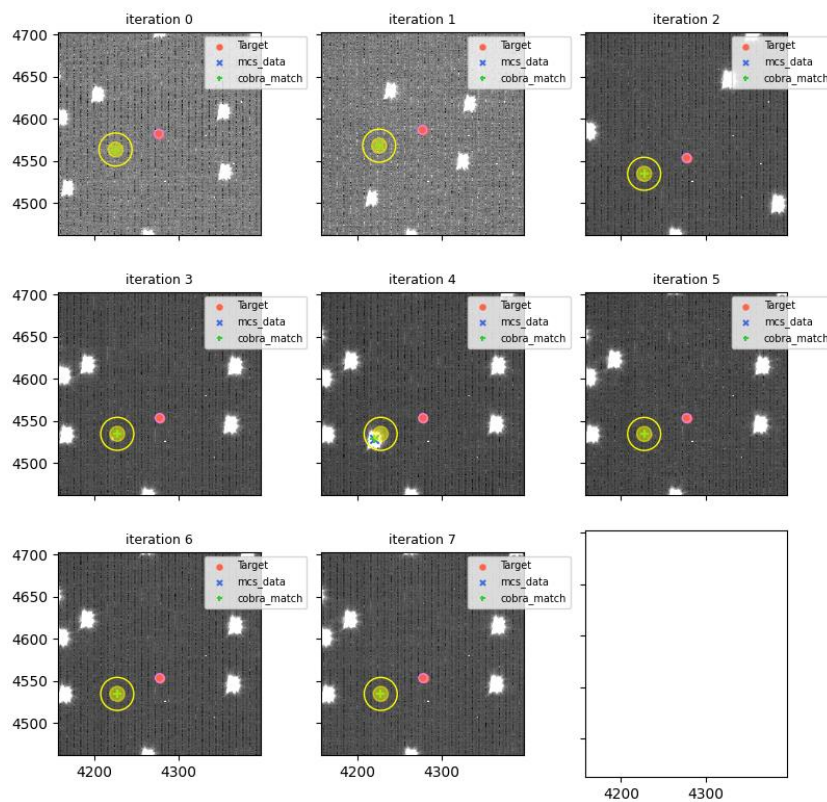


Fiber didn't move even after it was flagged behind the dot.

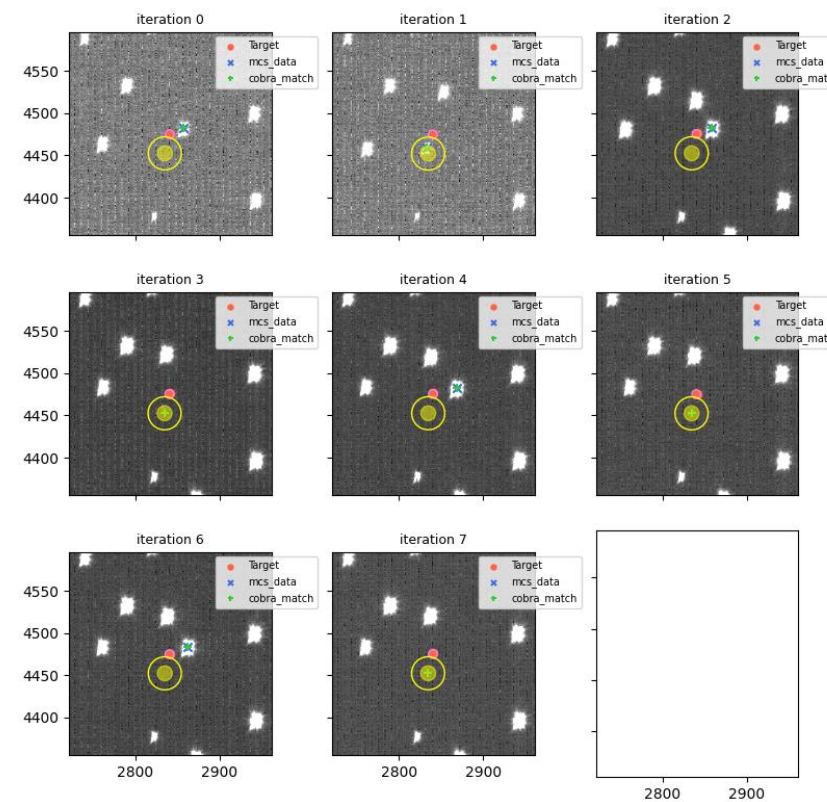
visit=114867 (for 114869), fiberId=2345, Cobrald=494



visit=114875 (for 114877), fiberId=2345, Cobrald=494

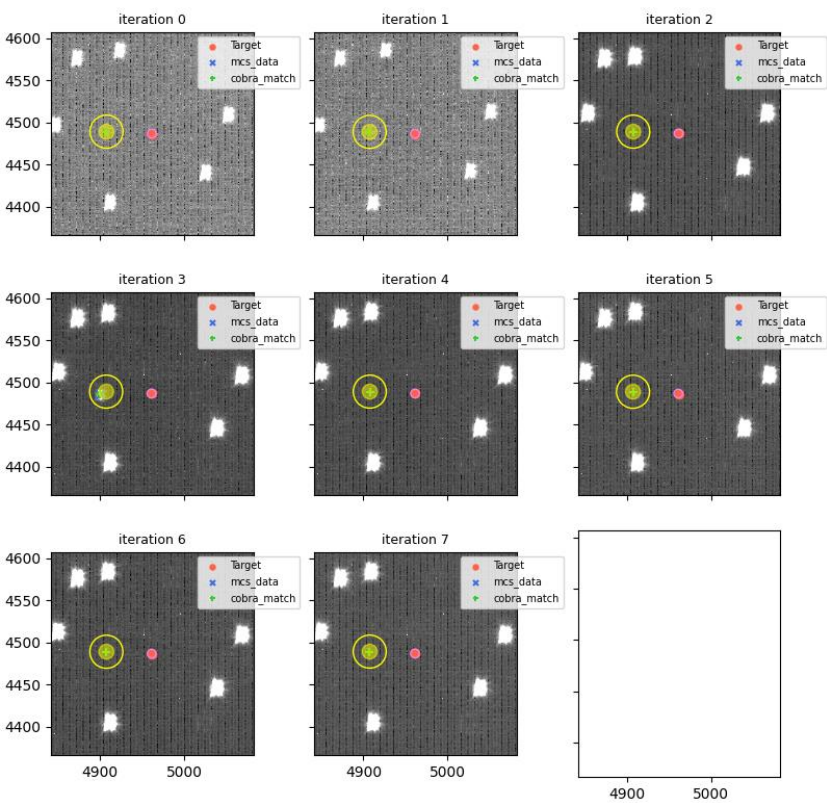


visit=114883 (for 114885), fiberId=2229, Cobrald=687

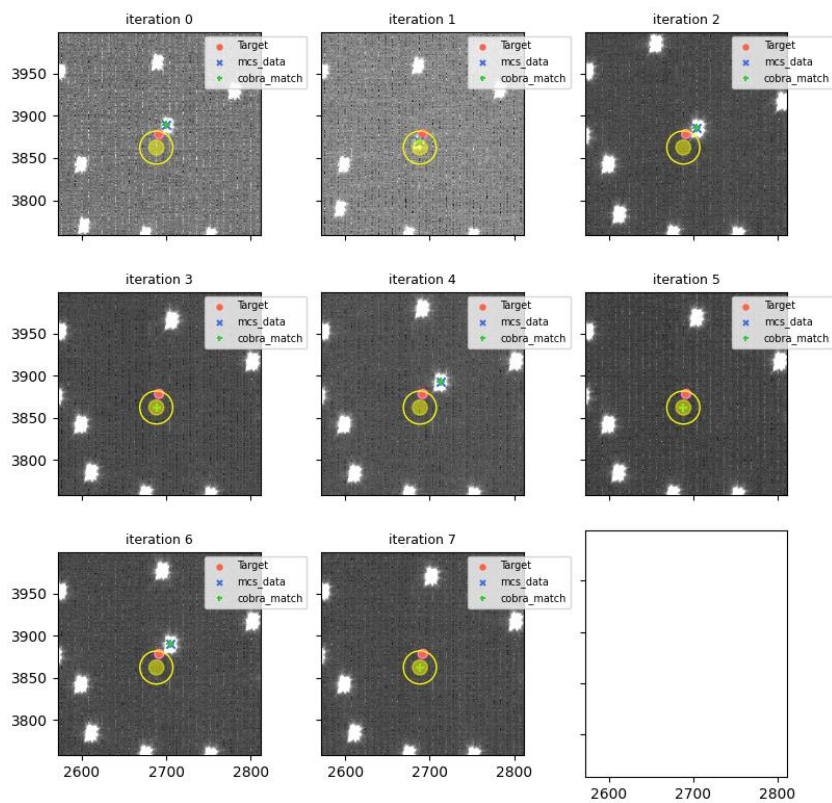


Fiber didn't move even after it was flagged behind the dot.

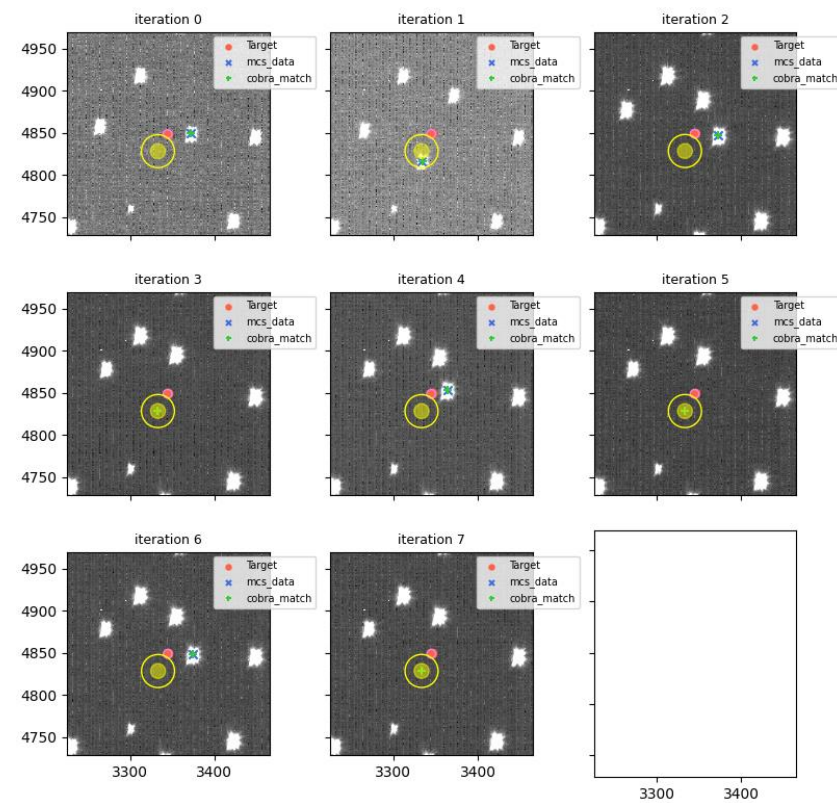
visit=114883 (for 114885), fiberId=2345, Cobrald=494



visit=114887 (for 114889), fiberId=1825, Cobrald=1133

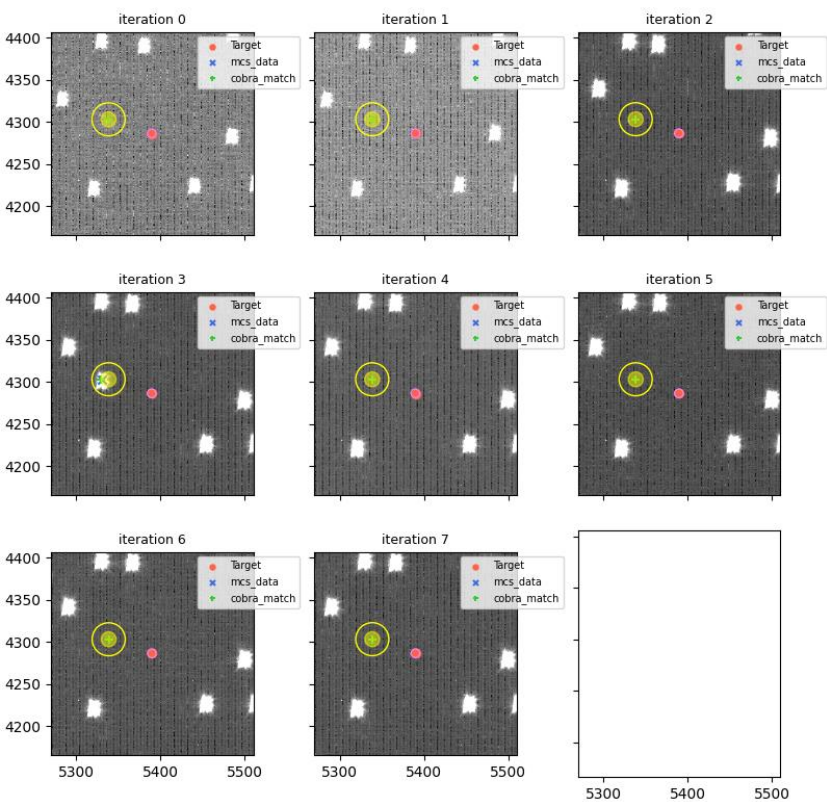


visit=114887 (for 114889), fiberId=2229, Cobrald=687

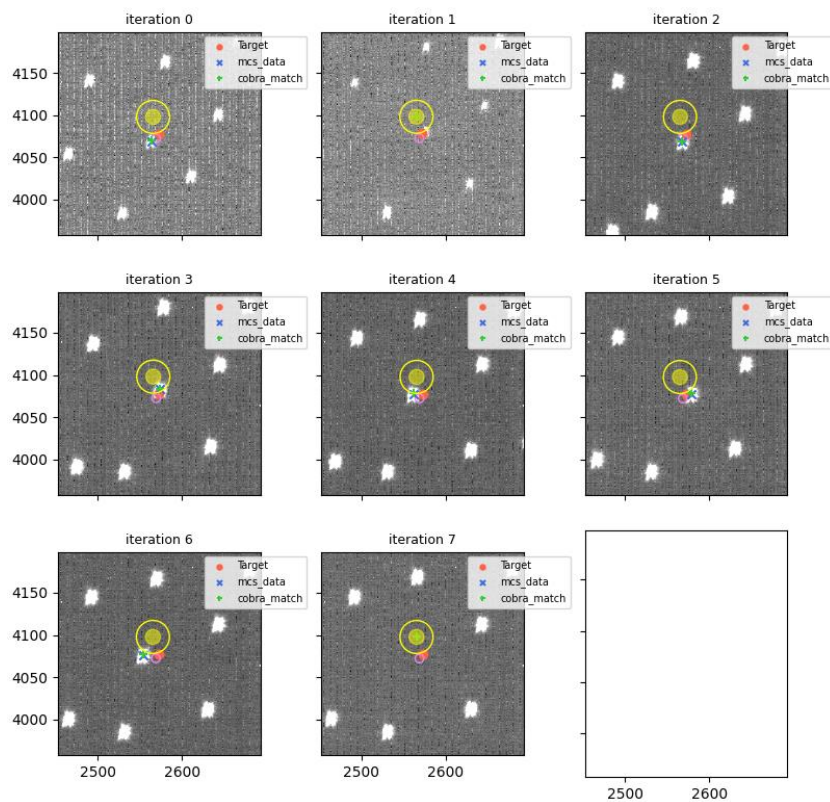


Fiber didn't move even after it was flagged behind the dot.

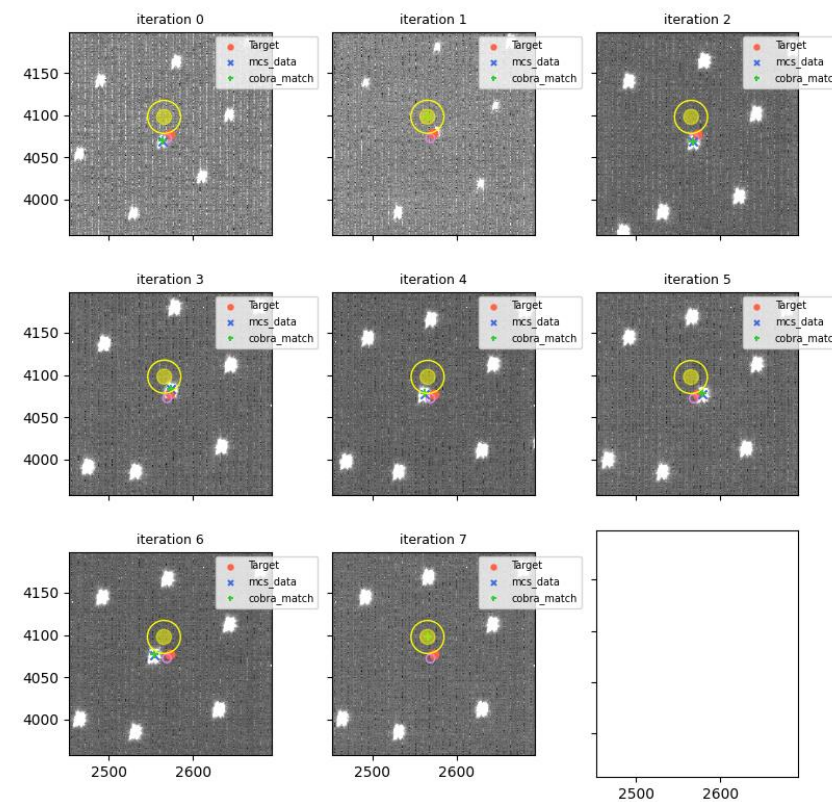
visit=114887 (for 114889), fiberId=2345, Cobrald=494



visit=115027 (for 115028), fiberId=919, Cobrald=1764

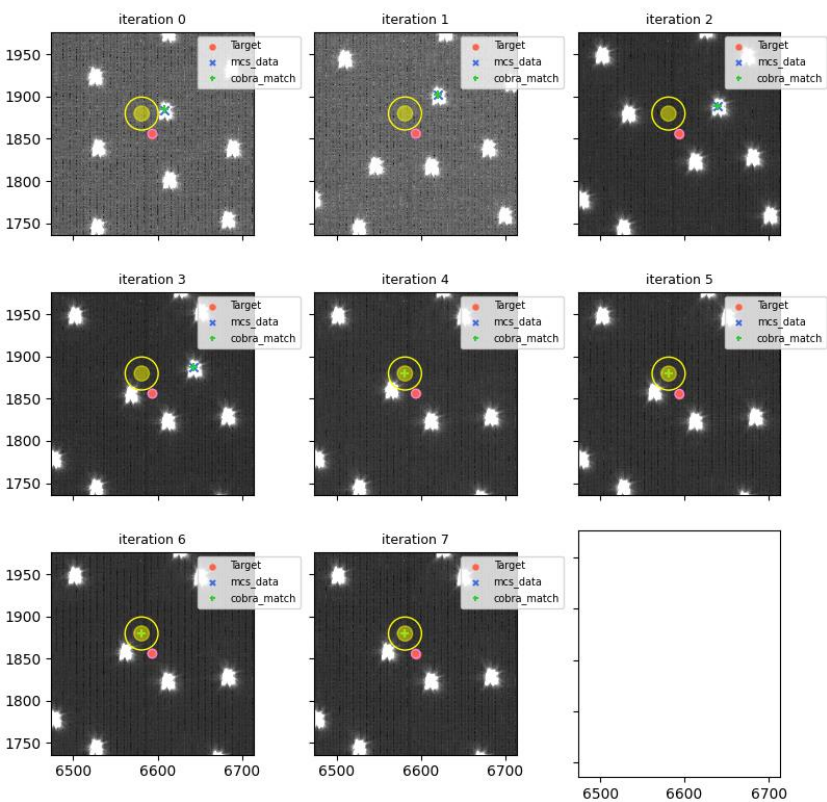


visit=115027 (for 115029), fiberId=919, Cobrald=1764

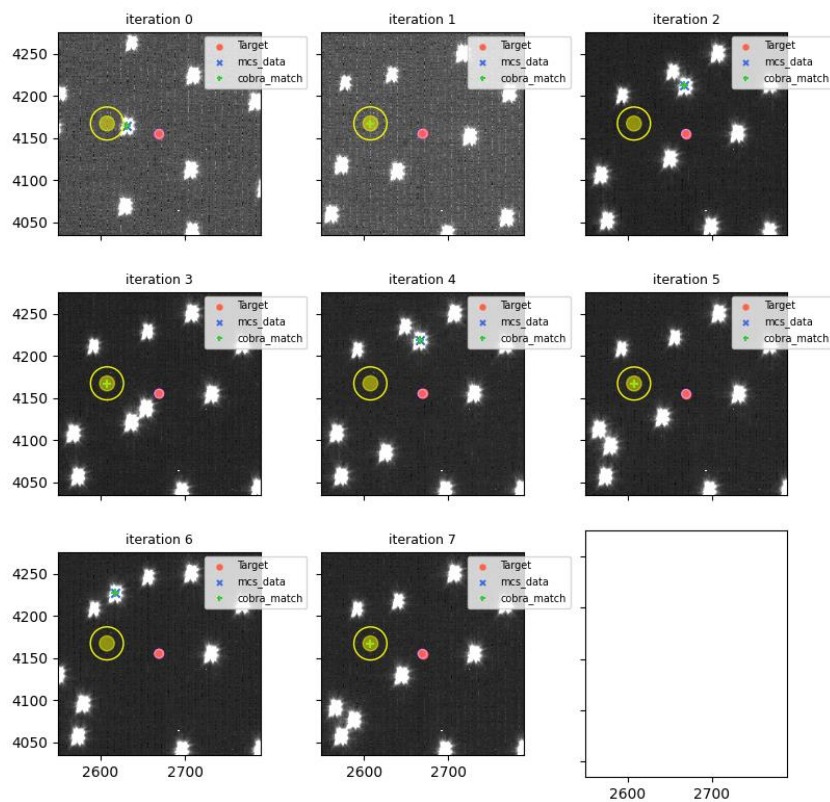


Fiber didn't move even after it was flagged behind the dot.

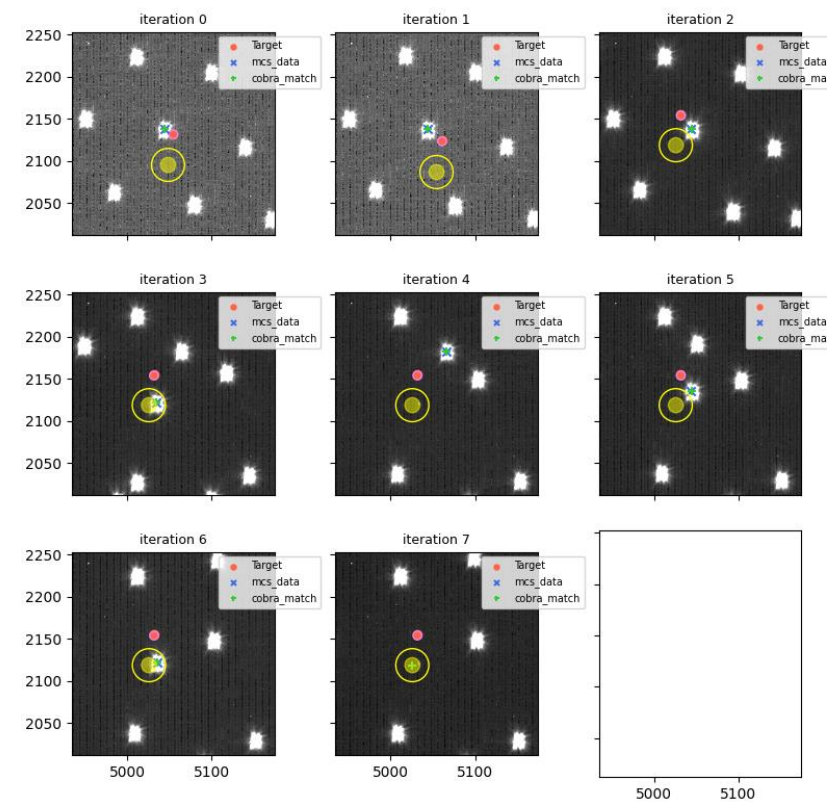
visit=115058 (for 115059), fiberId=371, Cobrald=2384



visit=115058 (for 115059), fiberId=2232, Cobrald=690



visit=115065 (for 115066), fiberId=1385, Cobrald=1675

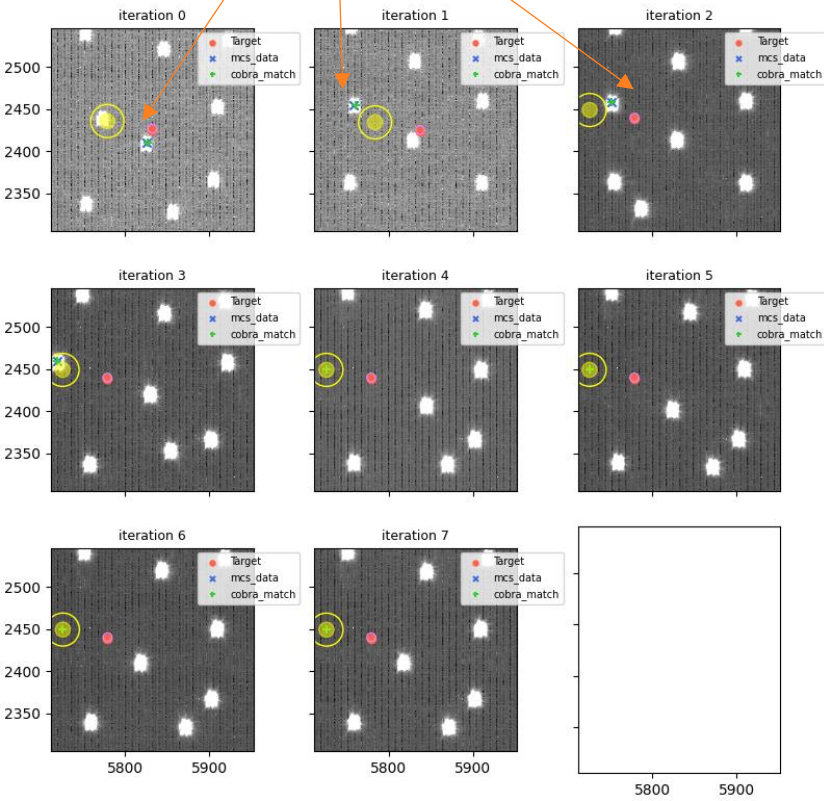


Fiber didn't move even after it was flagged behind the dot.

Case 2: mis identification

It seems that the different spot was identified for identical fiber? (Target position also changed)

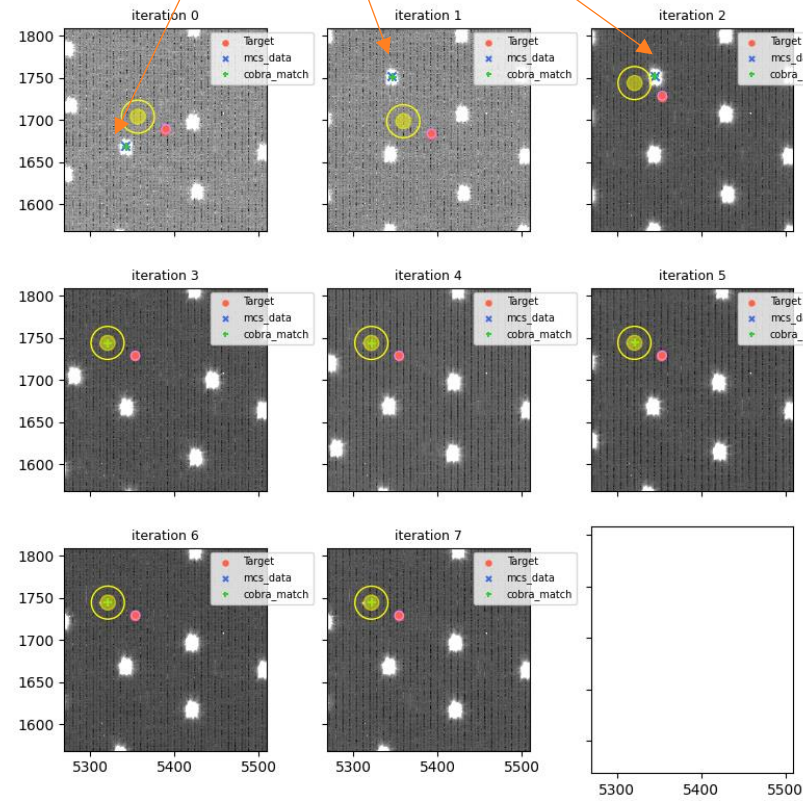
visit=114545 (for 114547), fiberId=645, Cobrald=2019



Fiber didn't move even after it was flagged behind the dot.

It seems that the different spot was identified for identical fiber? (Target position also changed)

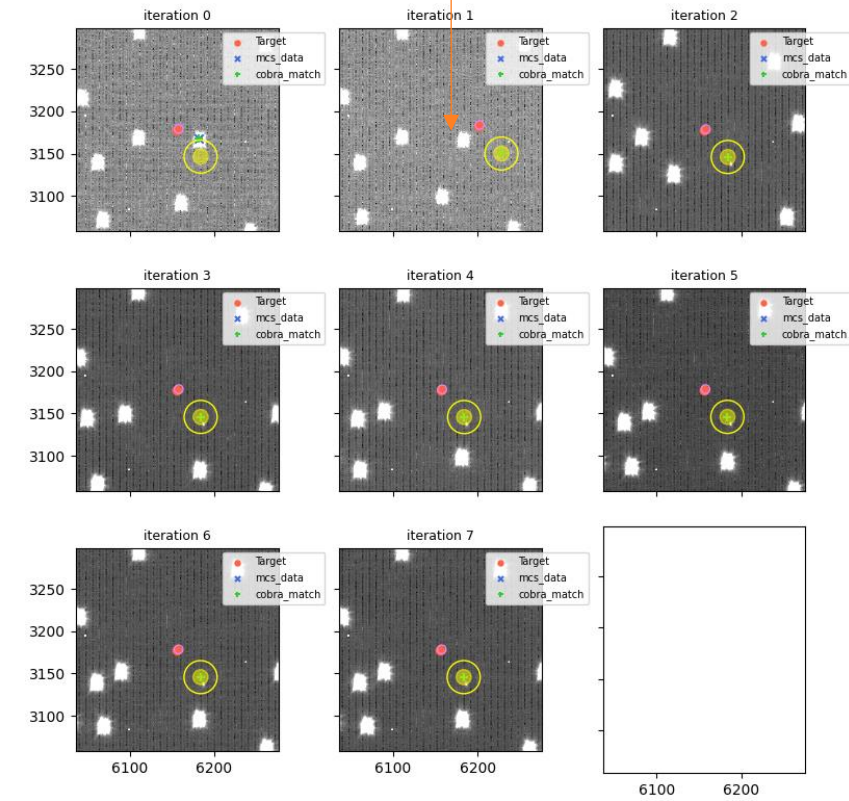
visit=114545 (for 114547), fiberId=1838, Cobrald=1916



Fiber didn't move even after it was flagged behind the dot.

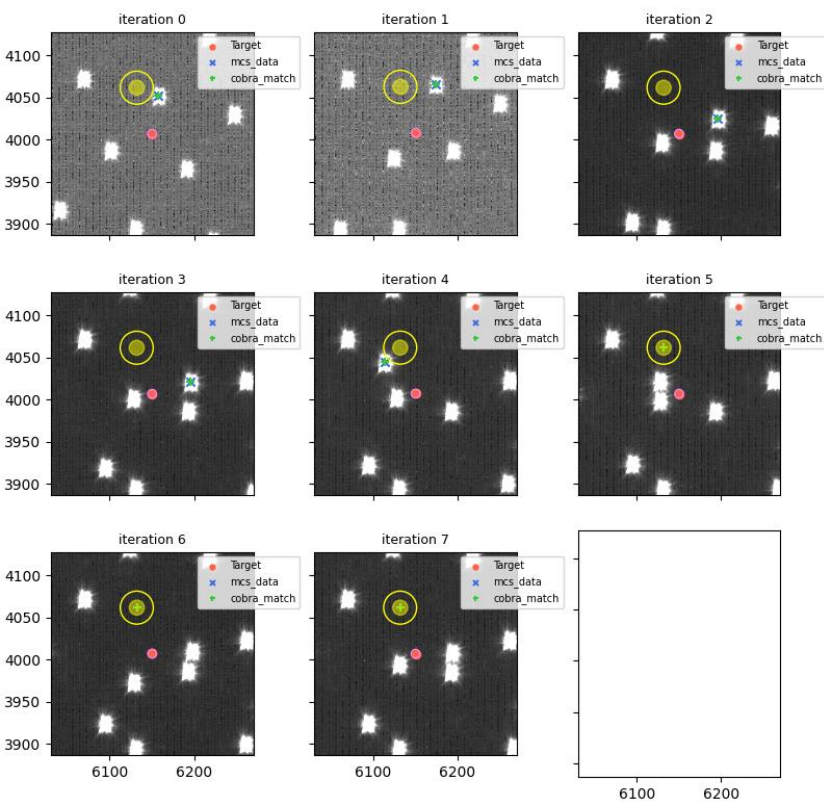
Almost the same position, but not detected

visit=114581 (for 114584), fiberId=822, Cobrald=2184



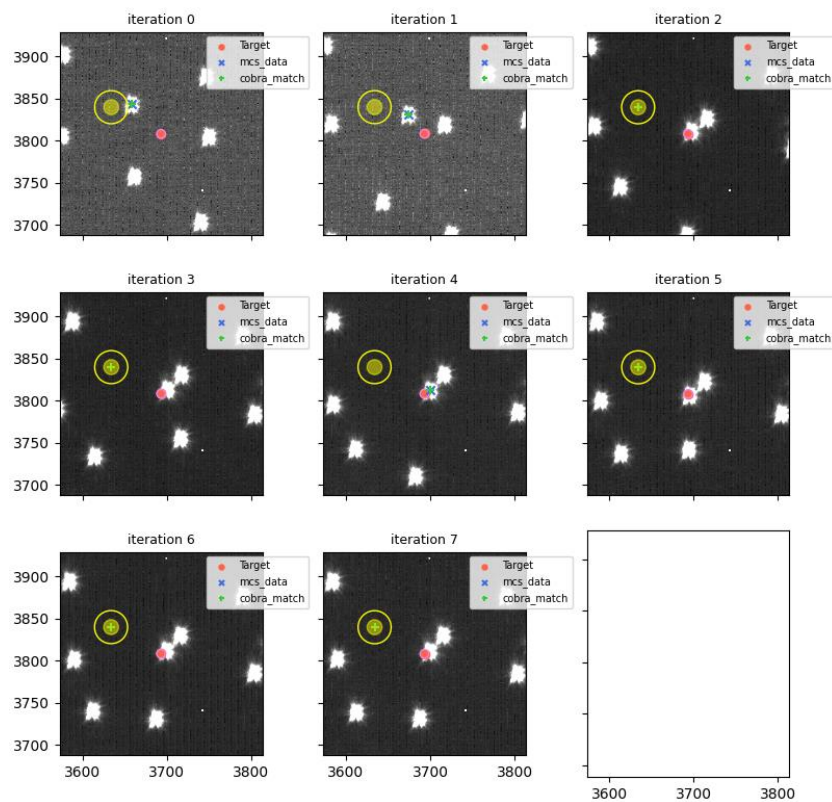
Spot was around the same position, but identification was different

visit=115048 (for 115049), fiberId=1707, Cobrald=564



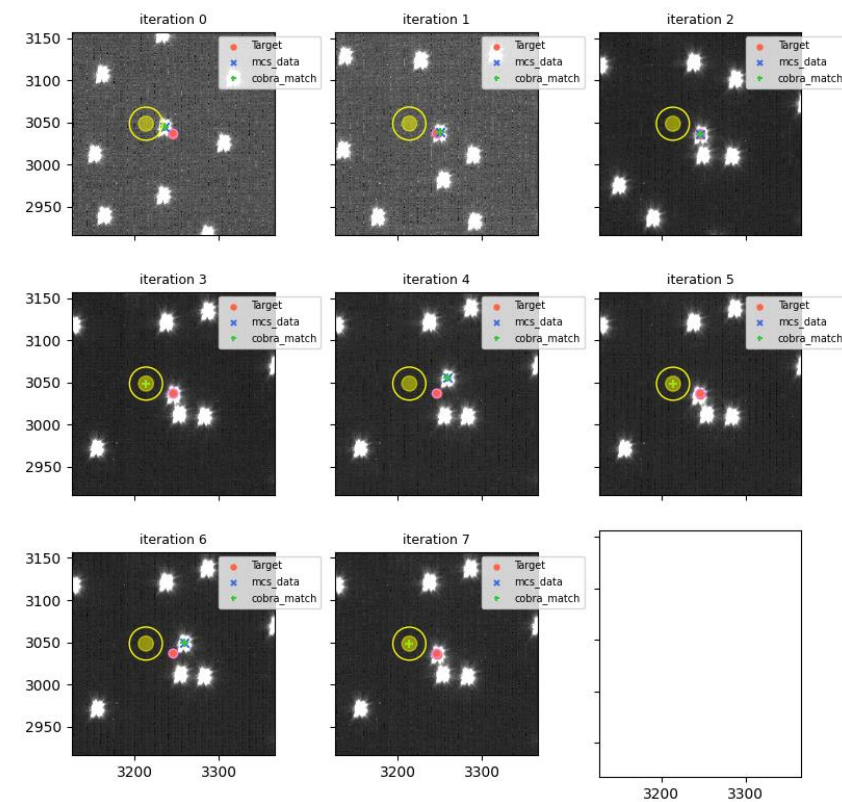
Spot was not identified when another spot was nearby

visit=115058 (for 115059), fiberId=573, Cobrald=411



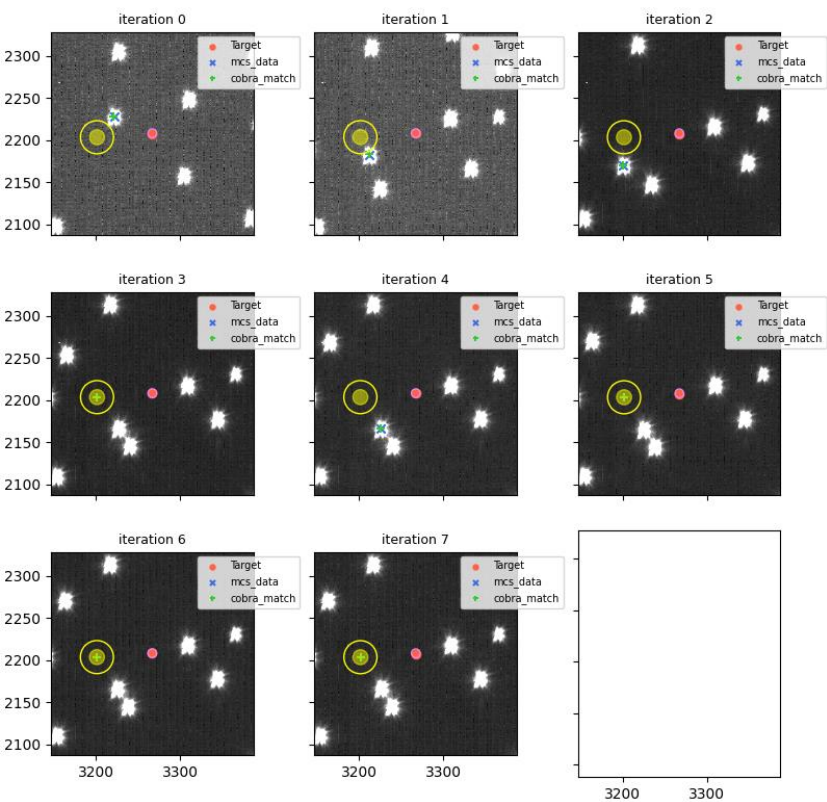
Spot was around the same position, but identification was different

visit=115058 (for 115059), fiberId=866, Cobrald=943



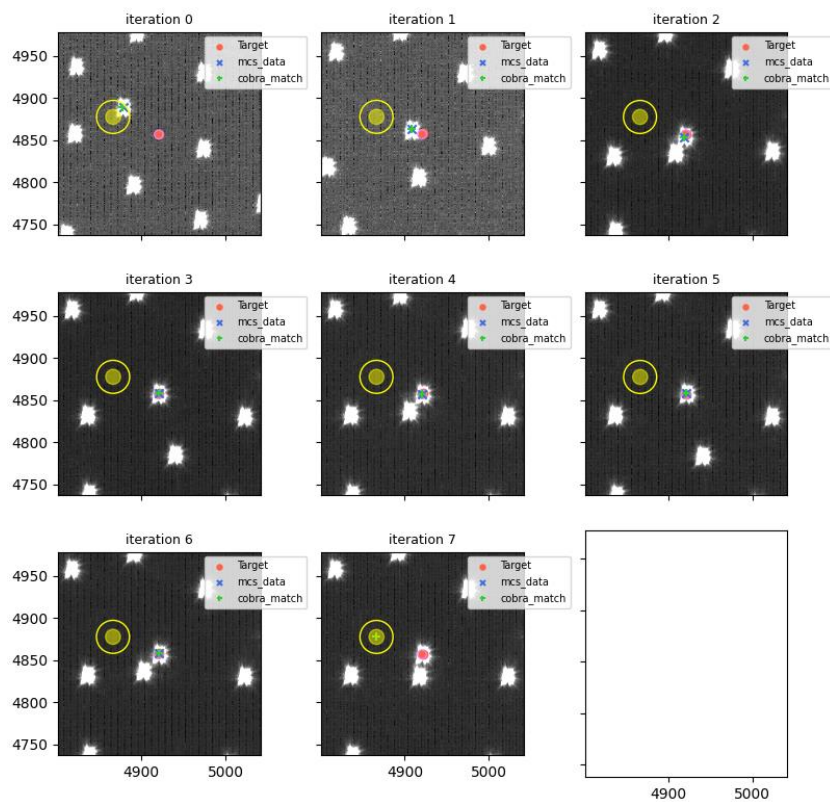
Spot was around the same position, but identification was different

visit=115058 (for 115059), fiberId=1152, Cobrald=1170



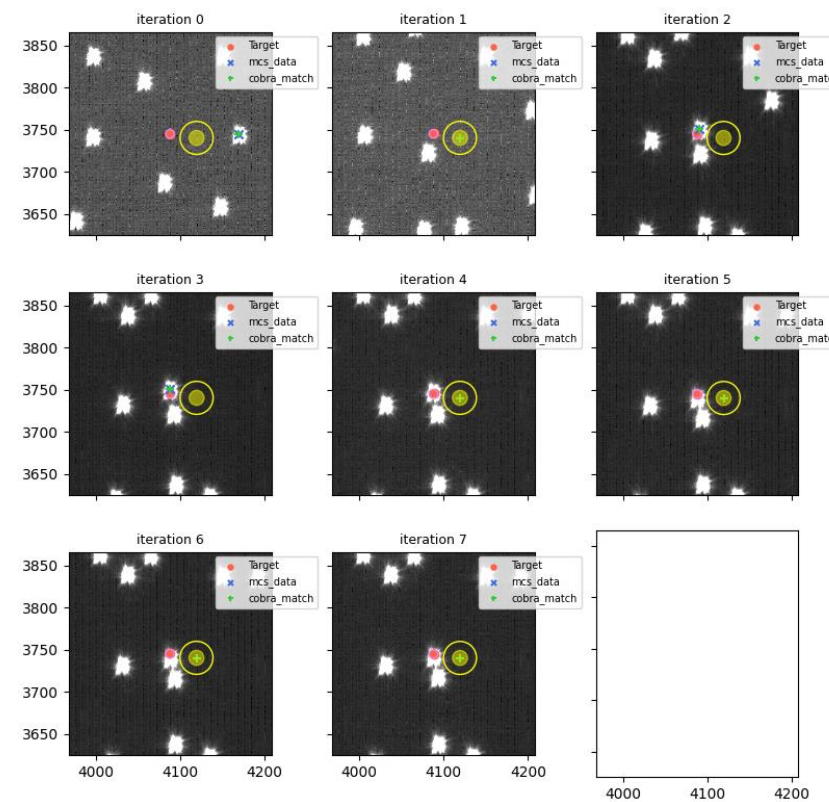
Spot was around the same position,
but identification was different

visit=115058 (for 115059), fiberId=1706, Cobrald=563



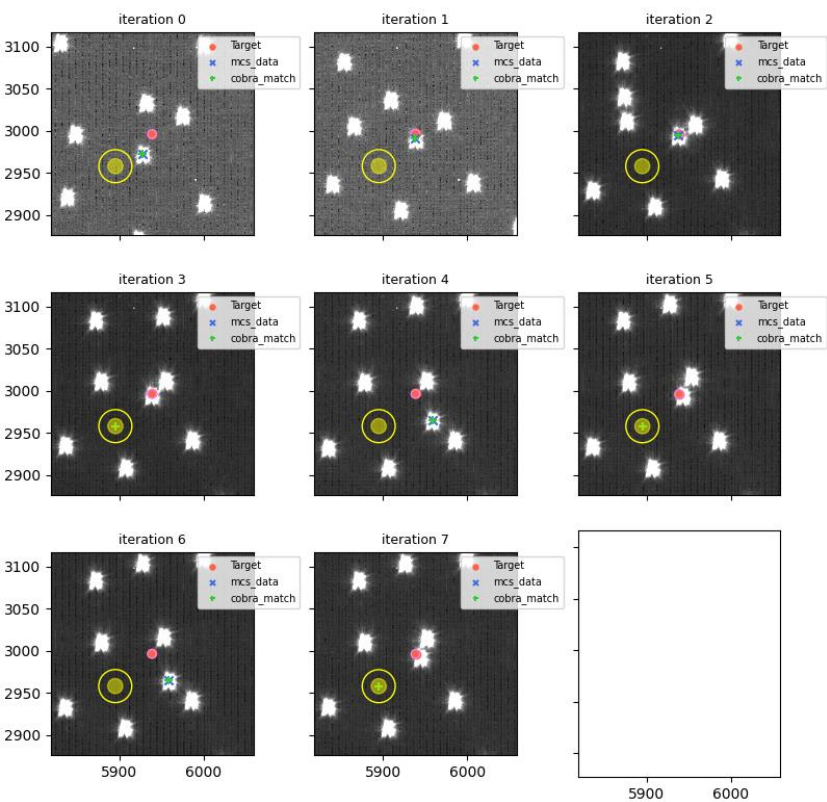
Spot was around the same position,
but identification was different

visit=115058 (for 115059), fiberId=1879, Cobrald=301



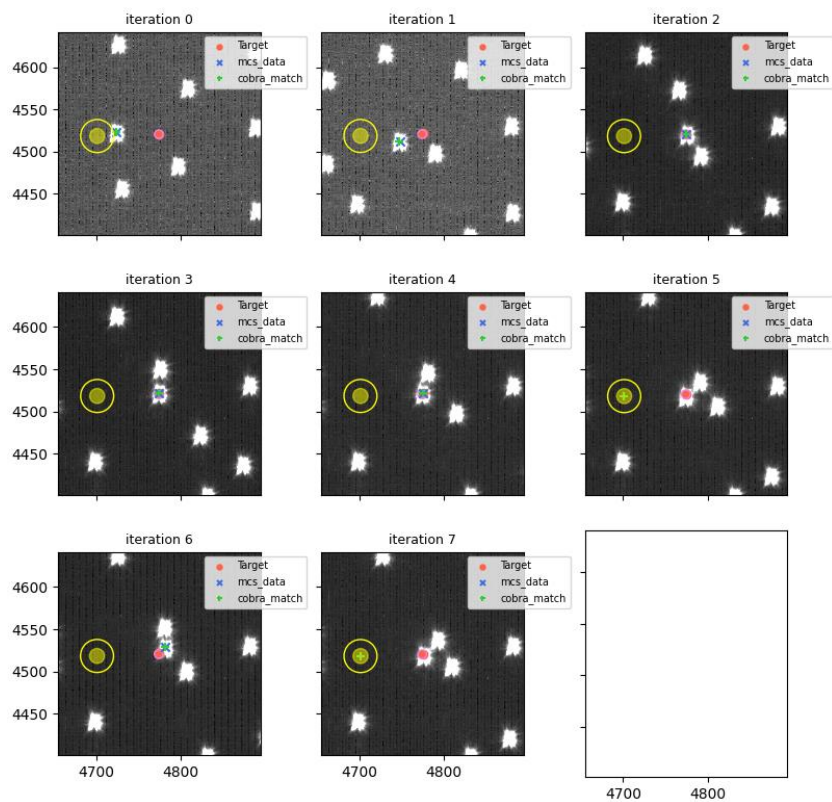
Spot was around the same position,
but identification was different

visit=115058 (for 115059), fiberId=2120, Cobrald=2066



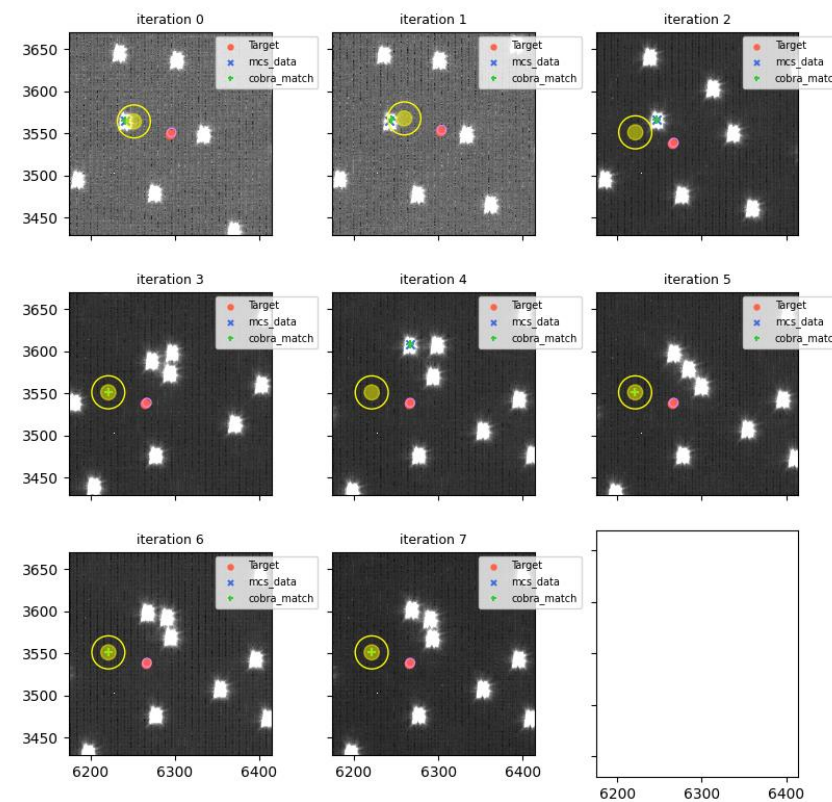
Spot was not identified when another spot was nearby

visit=115058 (for 115059), fiberId=2348, Cobrald=497



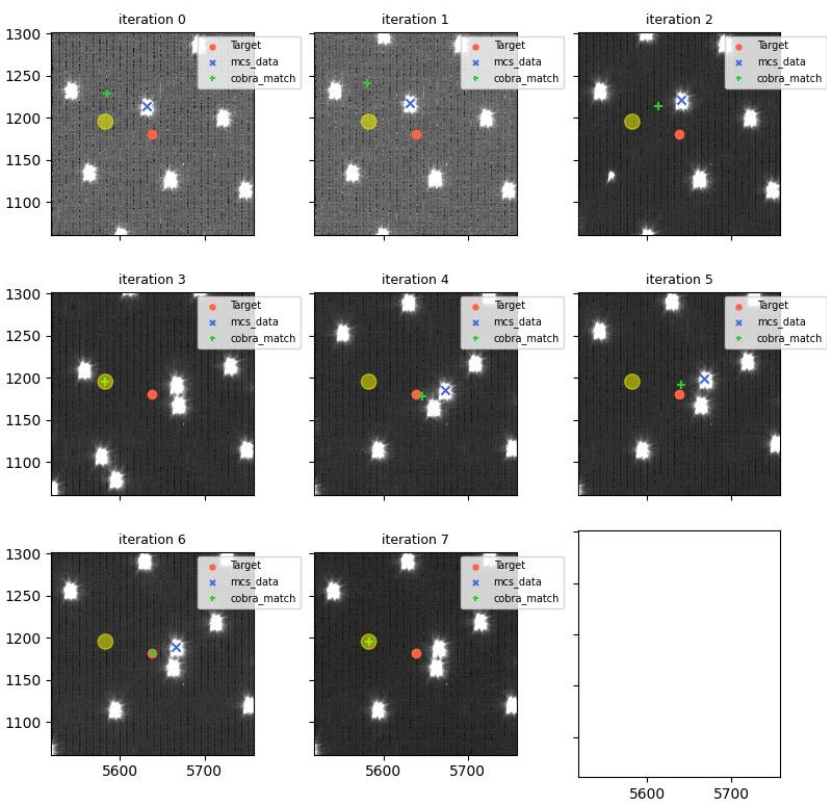
Spot was not identified when another spot was nearby

visit=115065 (for 115066), fiberId=175, Cobrald=2245



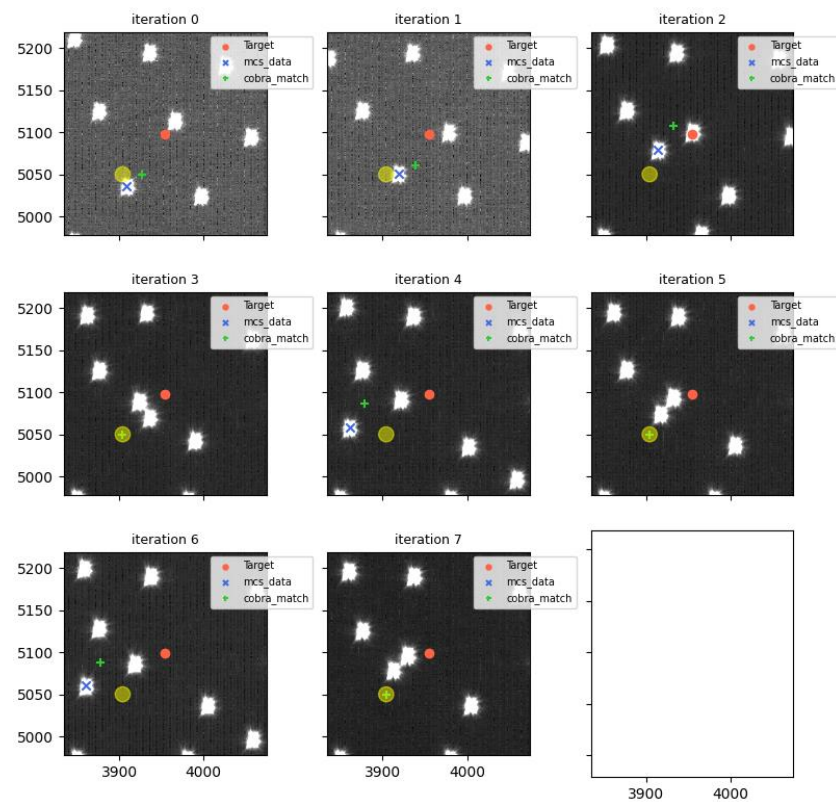
Spot was not identified when another spot was nearby

visit=115065 (for 115066), fiberId=263, Cobrald=1816



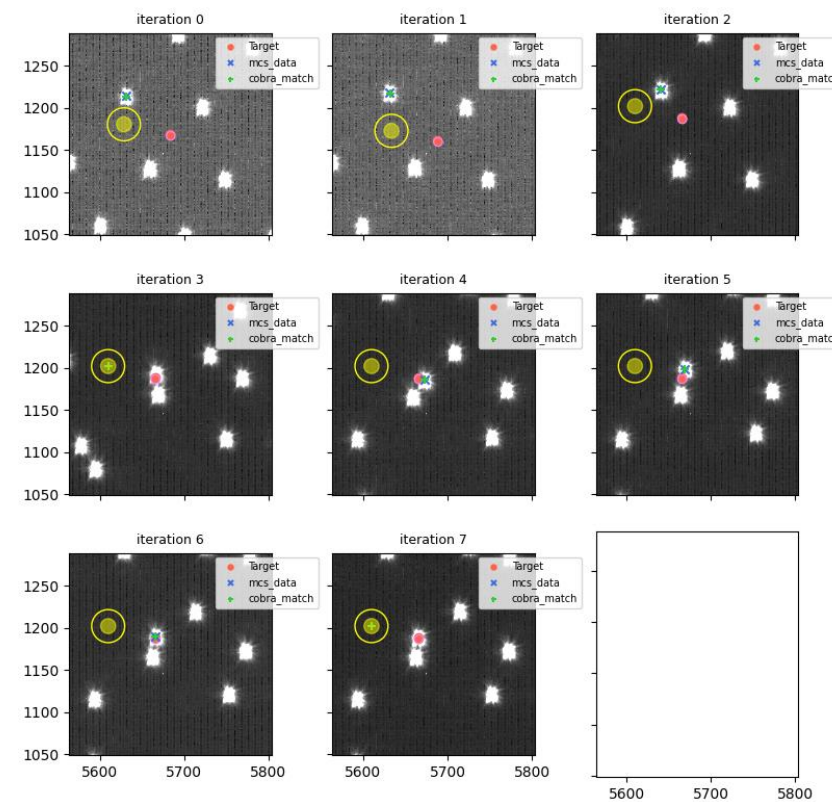
Spot was not identified when
another spot was nearby
Spot was around the same position,
but identification was different

visit=115065 (for 115066), fiberId=407, Cobrald=680



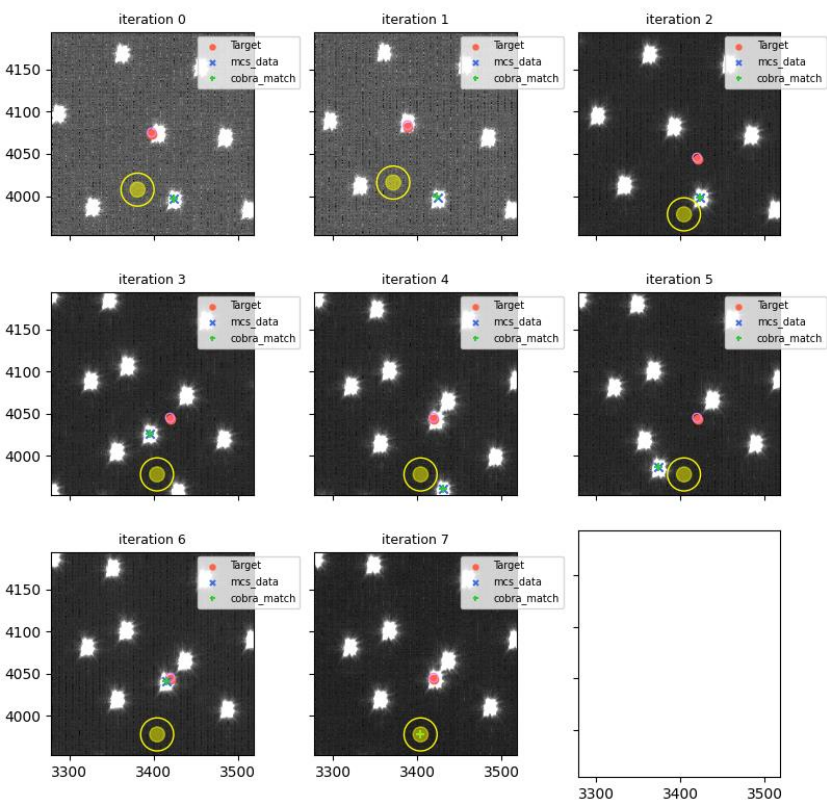
Spot was not identified when
another spot was nearby

visit=115065 (for 115066), fiberId=263, Cobrald=1816



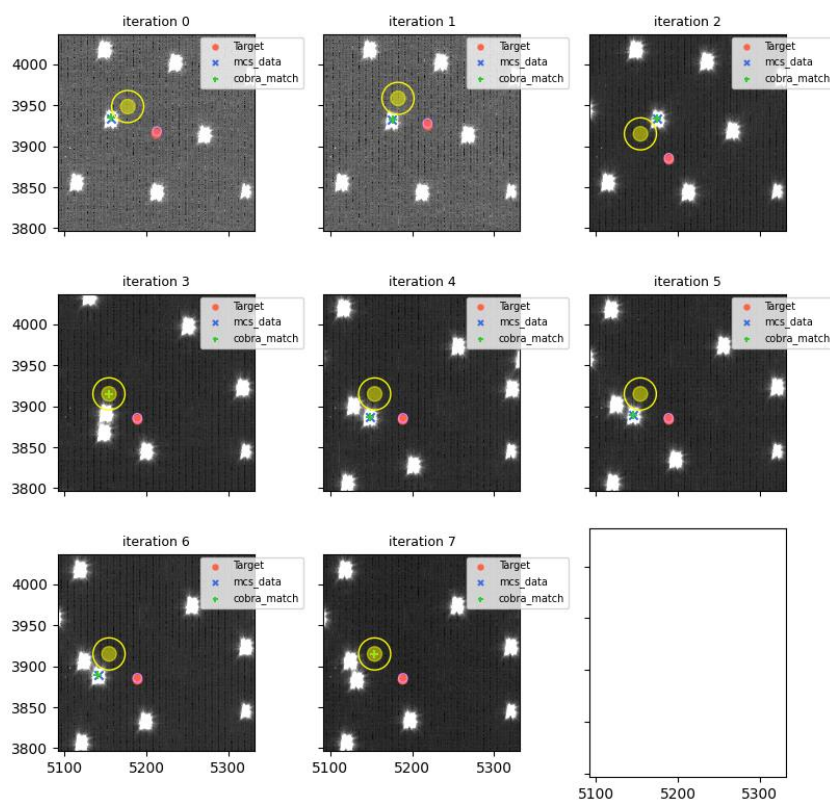
Spot was not identified when
another spot was nearby

visit=115065 (for 115066), fiberId=1420, Cobrald=538



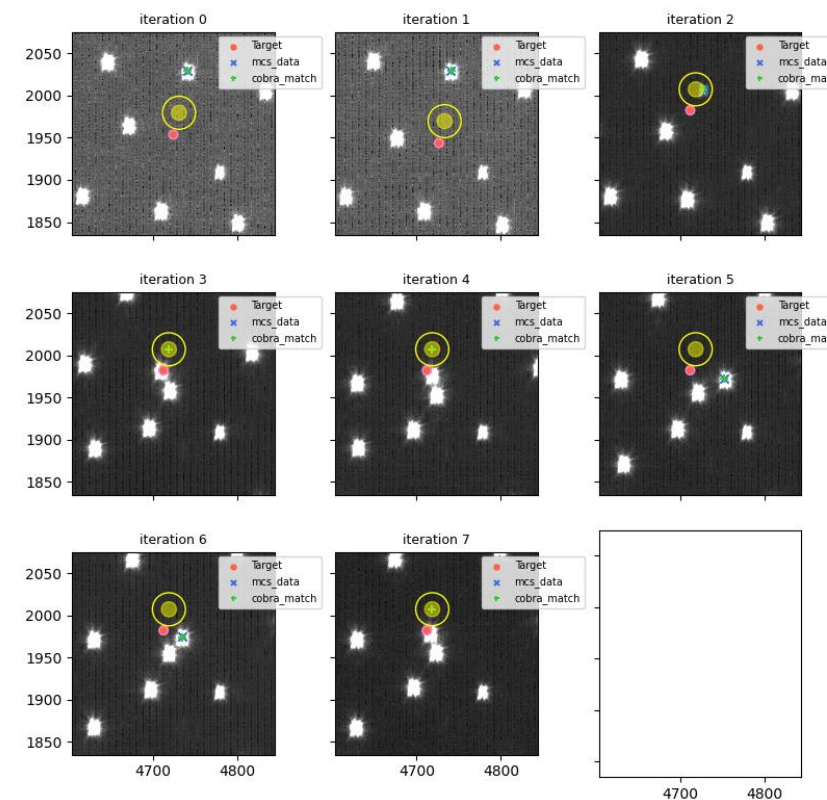
Spot was not identified when
another spot was nearby
Spot was around the same position,
but identification was different

visit=115065 (for 115066), fiberId=2139, Cobrald=30



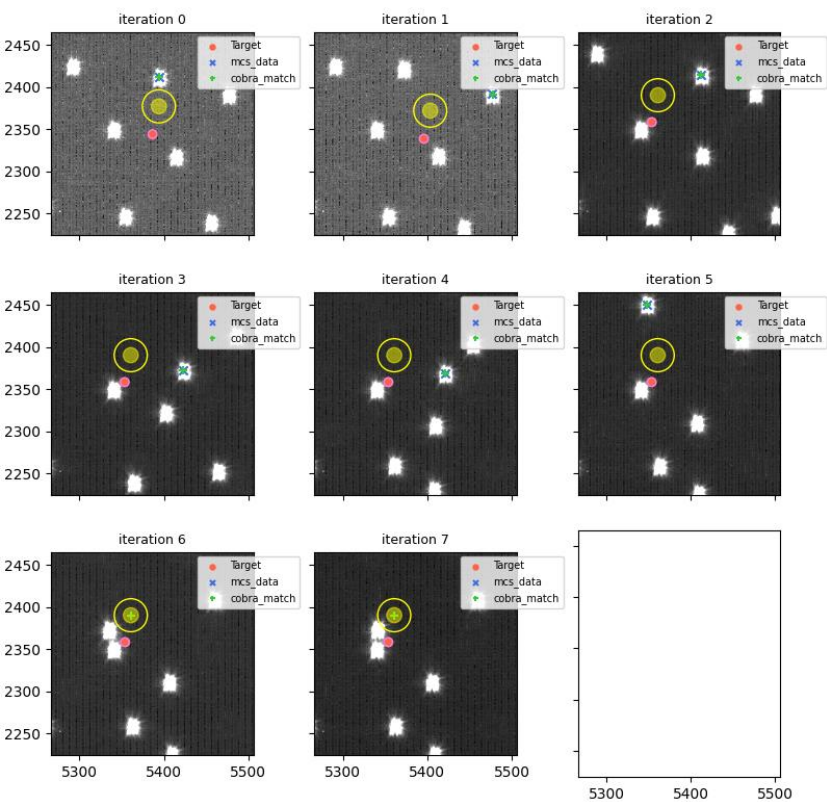
Spot was not identified when
another spot was nearby
Spot was around the same position,
but identification was different

visit=115065 (for 115066), fiberId=2544, Cobrald=1027



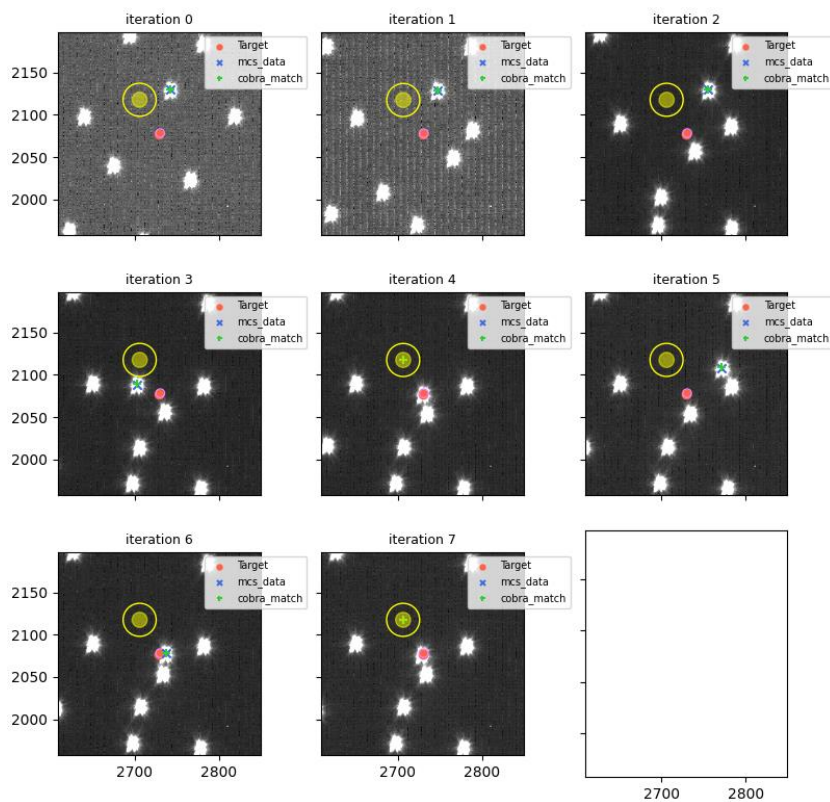
Spot was not identified when
another spot was nearby

visit=115065 (for 115066), fiberId=2599, Cobrald=1849



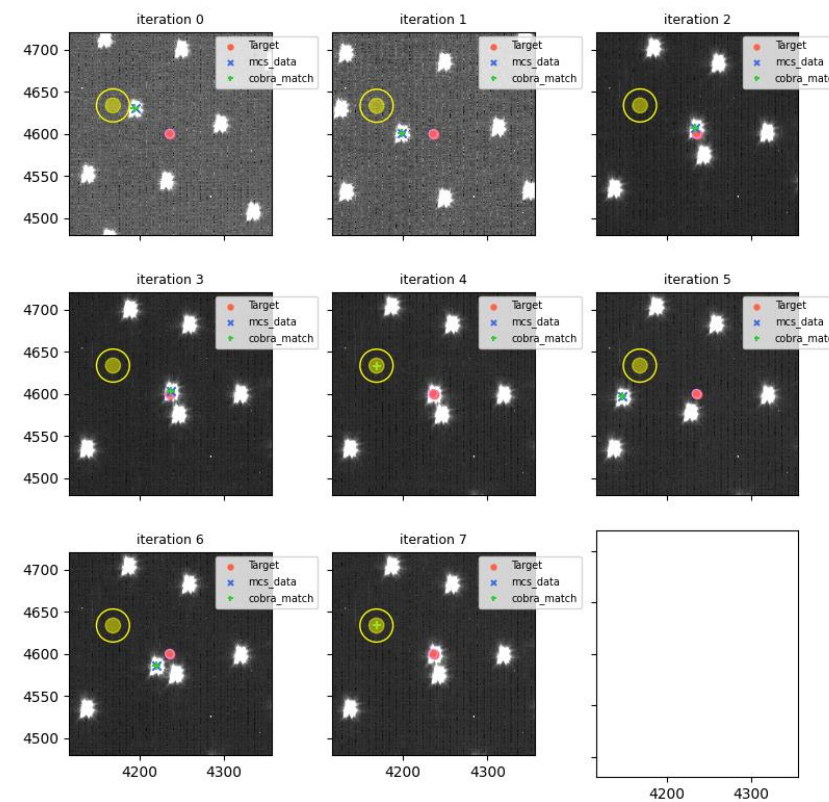
Spot was not identified when another spot was nearby

visit=115072 (for 115073), fiberId=149, Cobrald=1450



Spot was not identified when another spot was nearby
Spot was around the same position, but identification was different

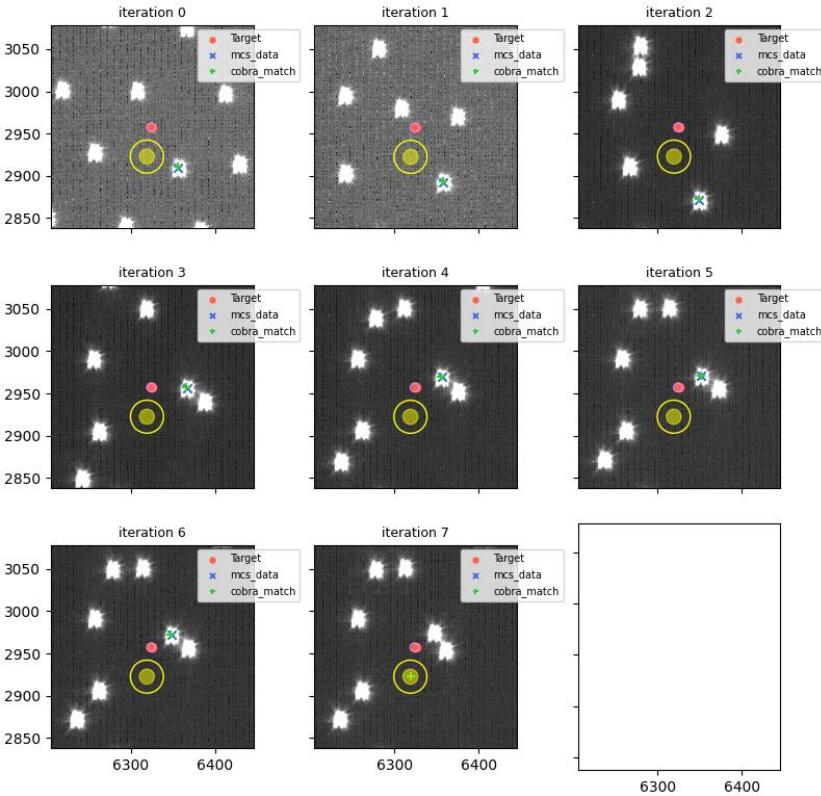
visit=115072 (for 115073), fiberId=756, Cobrald=582



Spot was not identified when another spot was nearby

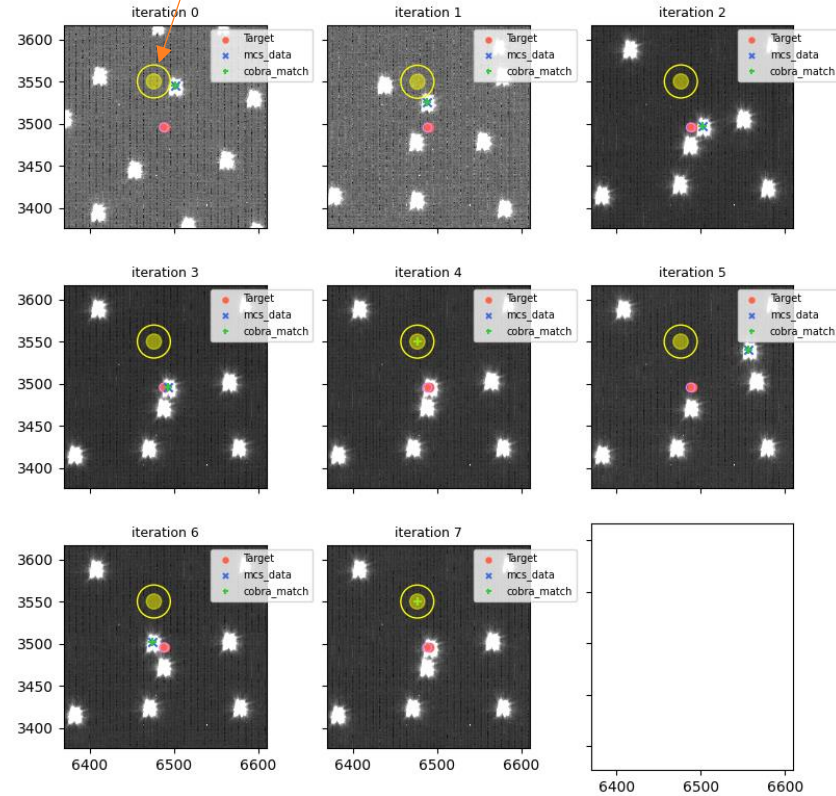
Spot was detected at dot position?

visit=115072 (for 115073), fiberId=1502, Cobrald=101



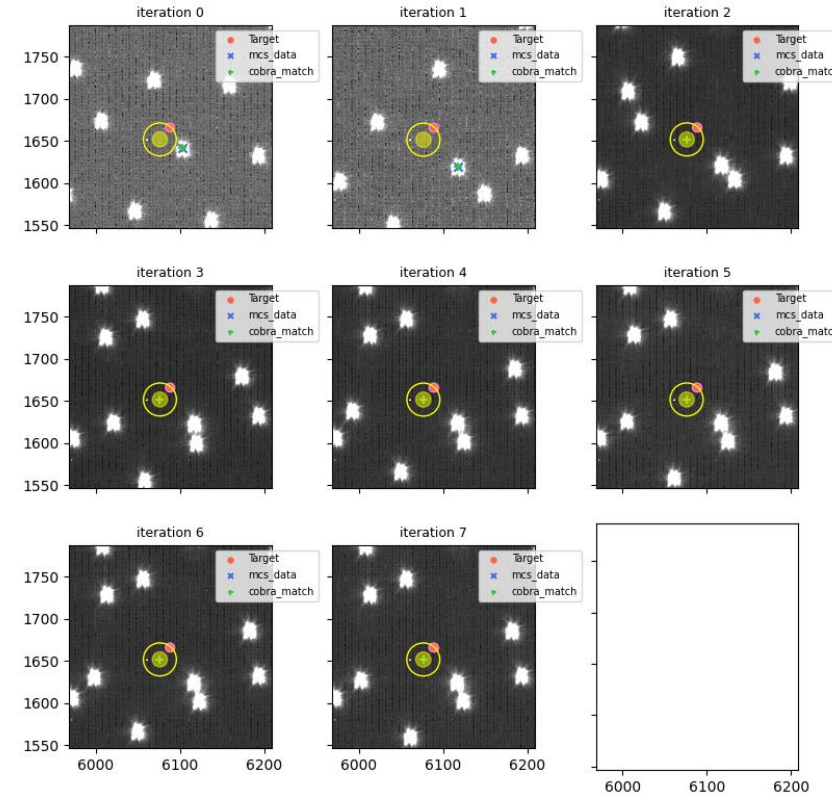
Spot was not identified when
another spot was nearby
Spot was around the same position,
but identification was different

visit=115072 (for 115073), fiberId=1799, Cobrald=339



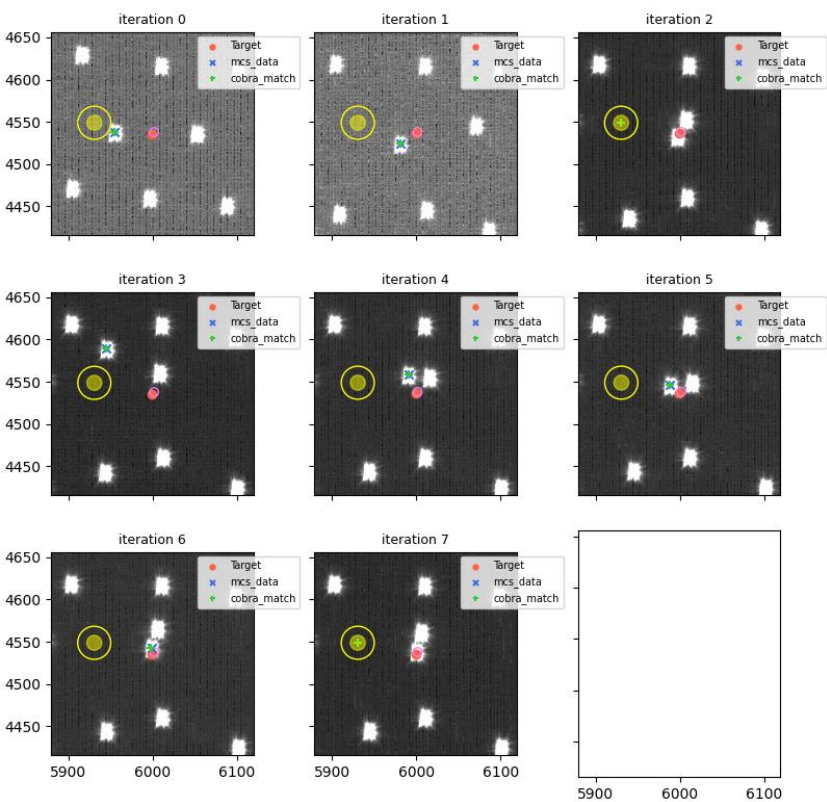
Spot was not identified when
another spot was nearby
Spot was around the same position,
but identification was different

visit=115072 (for 115073), fiberId=2330, Cobrald=2305



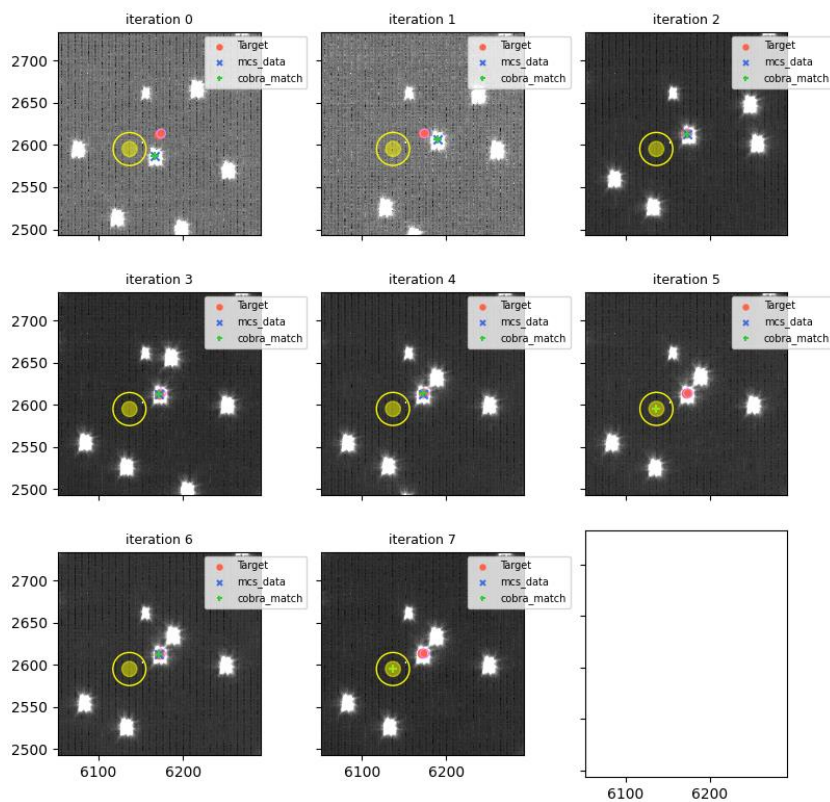
Spot was not identified when
another spot was nearby
Spot was around the same position,
but identification was different

visit=115080 (for 115081), fiberId=407, Cobrald=680



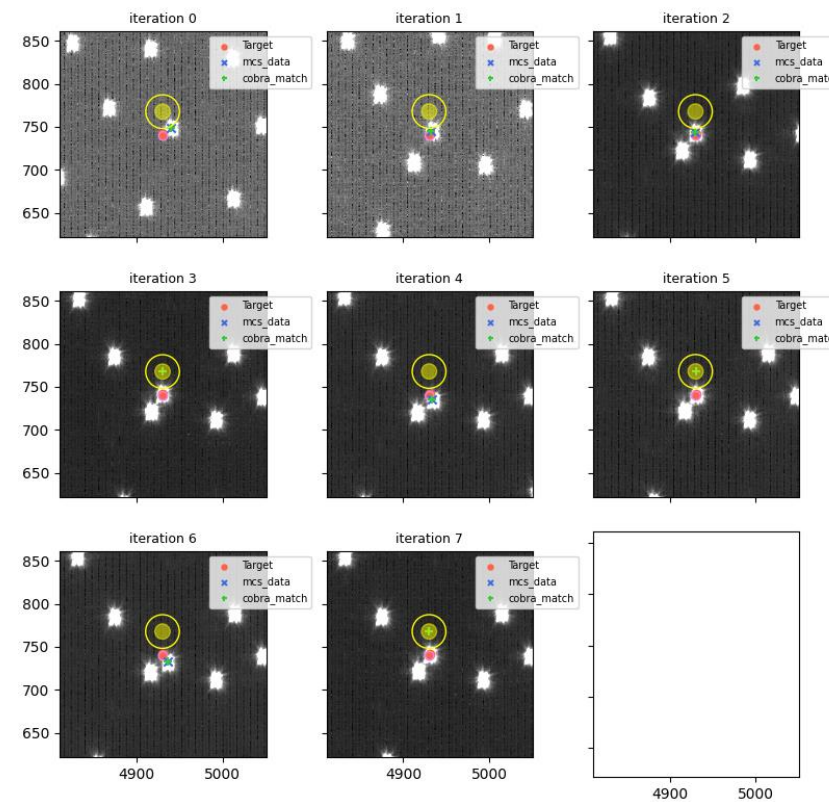
Spot was not identified when
another spot was nearby
Spot was around the same position,
but identification was different

visit=115080 (for 115081), fiberId=1458, Cobrald=2112



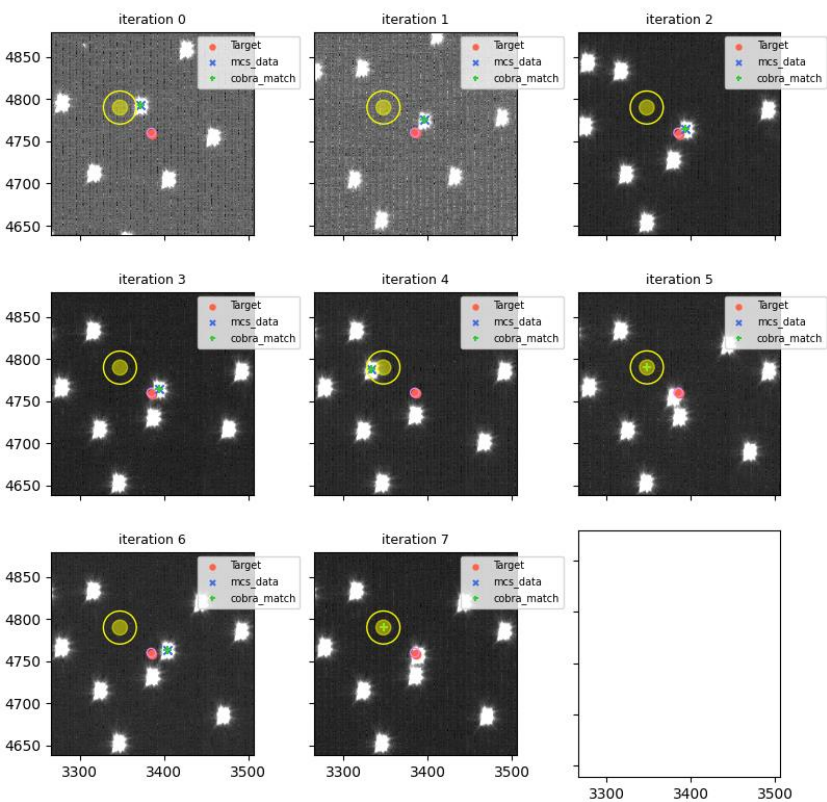
Spot was not identified when
another spot was nearby
Spot was around the same position,
but identification was different

visit=115080 (for 115081), fiberId=1764, Cobrald=2159



Spot was not identified when
another spot was nearby
Spot was around the same position,
but identification was different

visit=115080 (for 115081), fiberId=2189, Cobrald=848



Spot was not identified when

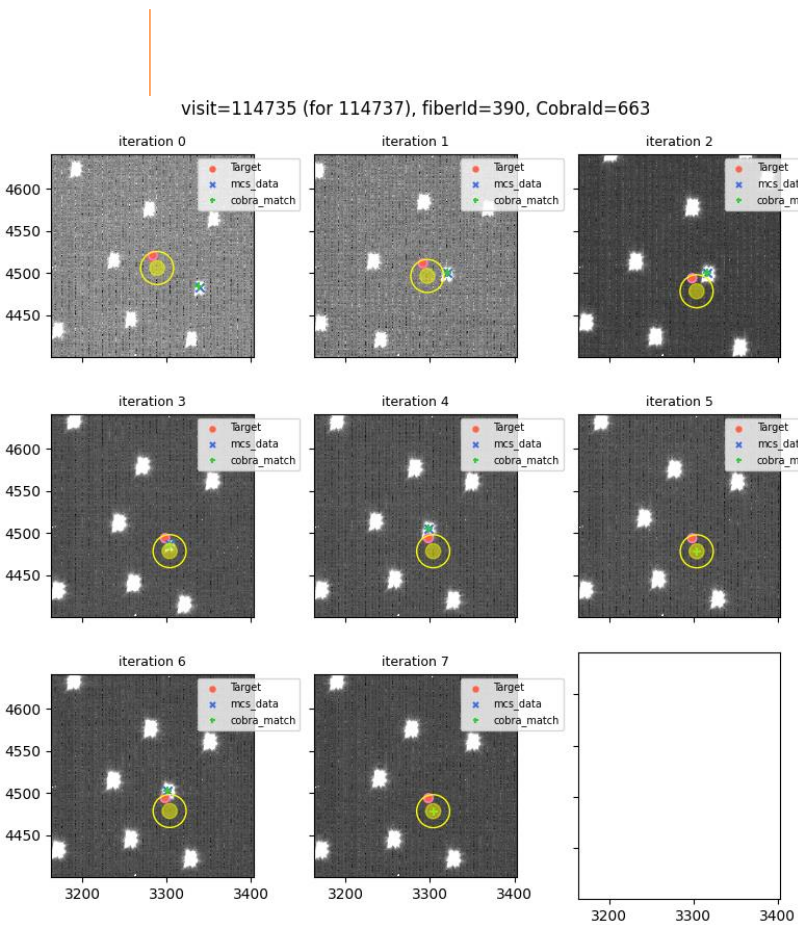
another spot was nearby

Spot was around the same position,

but identification was different

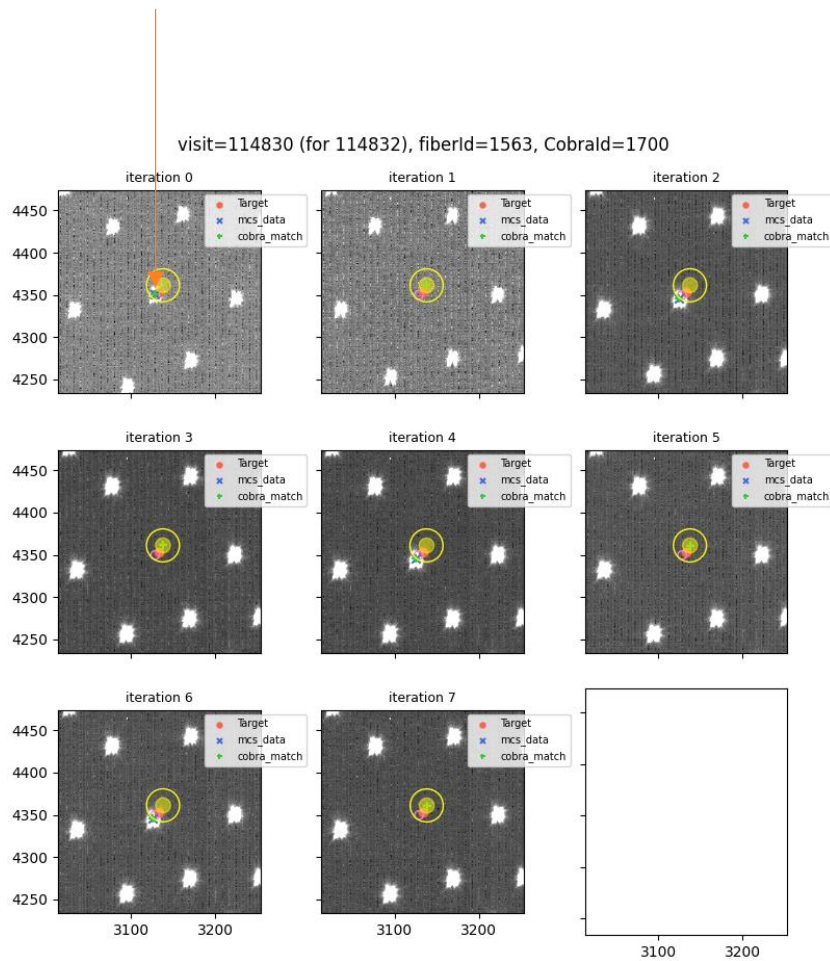
Case 3: Dot position

Target position is inside of the dot-free area?



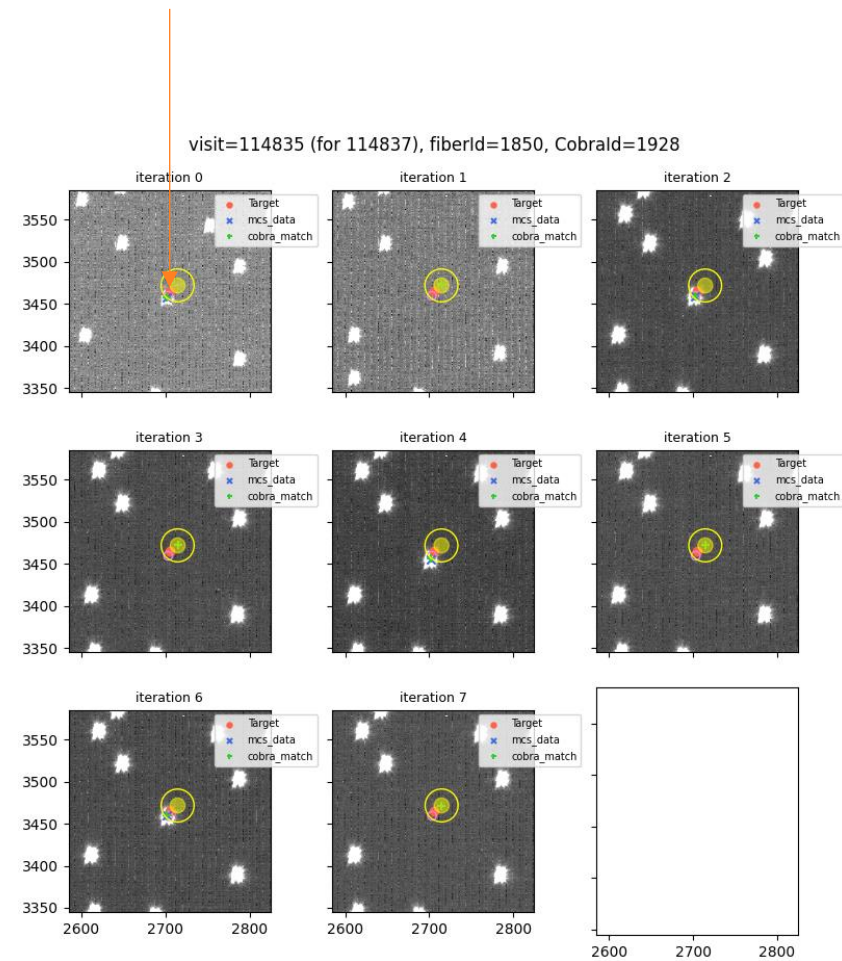
Target position needs to be checked

The target position is close to the dot



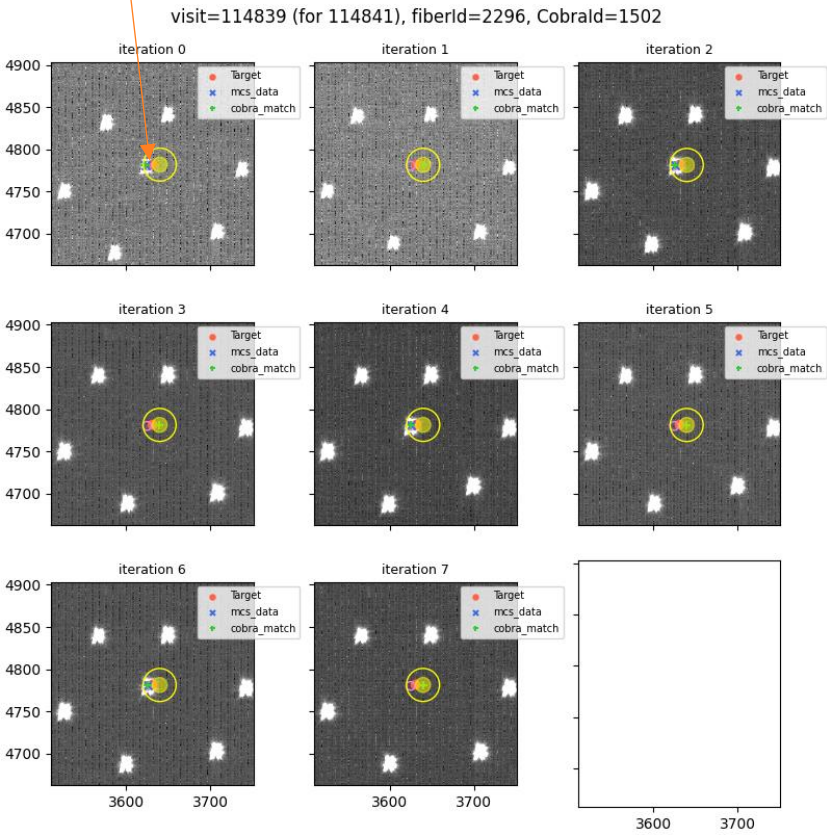
Target position needs to be checked

The target position is close to the dot



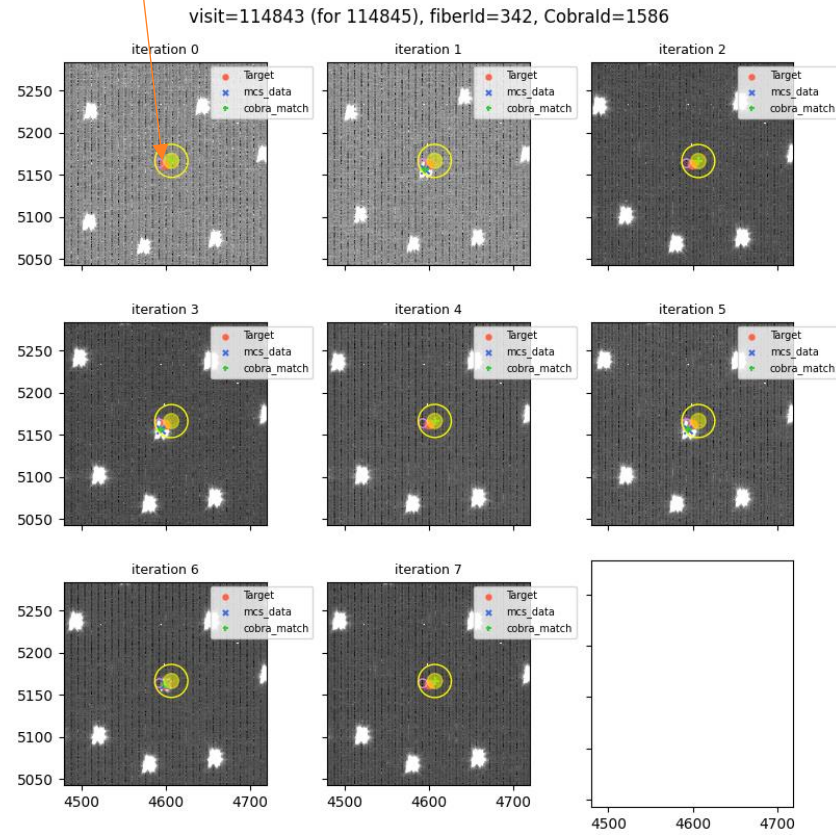
Target position needs to be checked

The target position is close to the dot



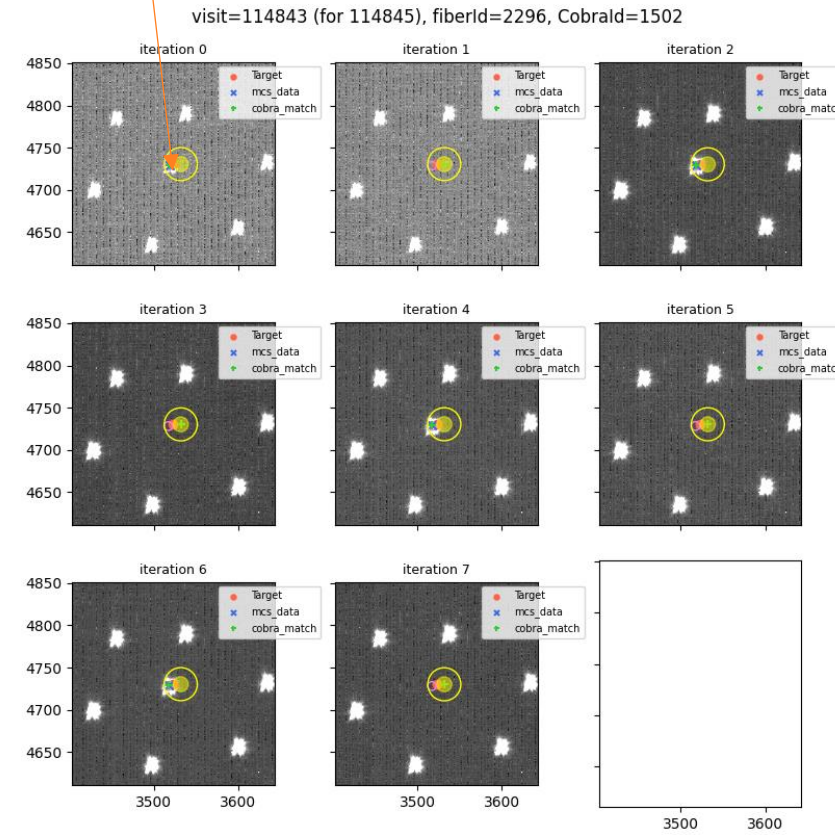
Target position needs to be checked

The target position is close to the dot



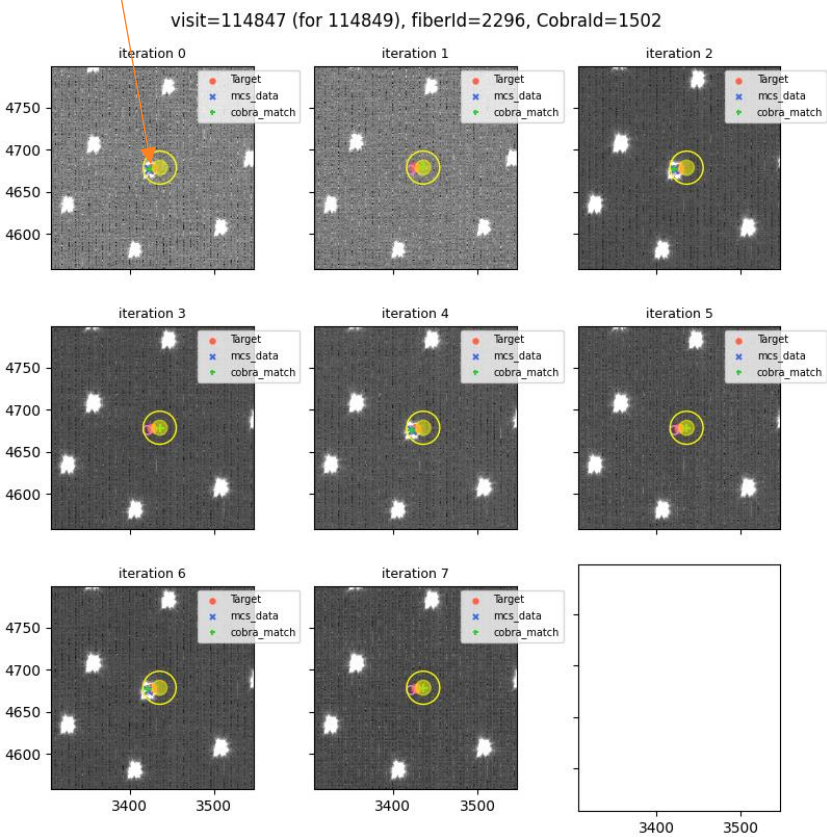
Target position needs to be checked

The target position is close to the dot



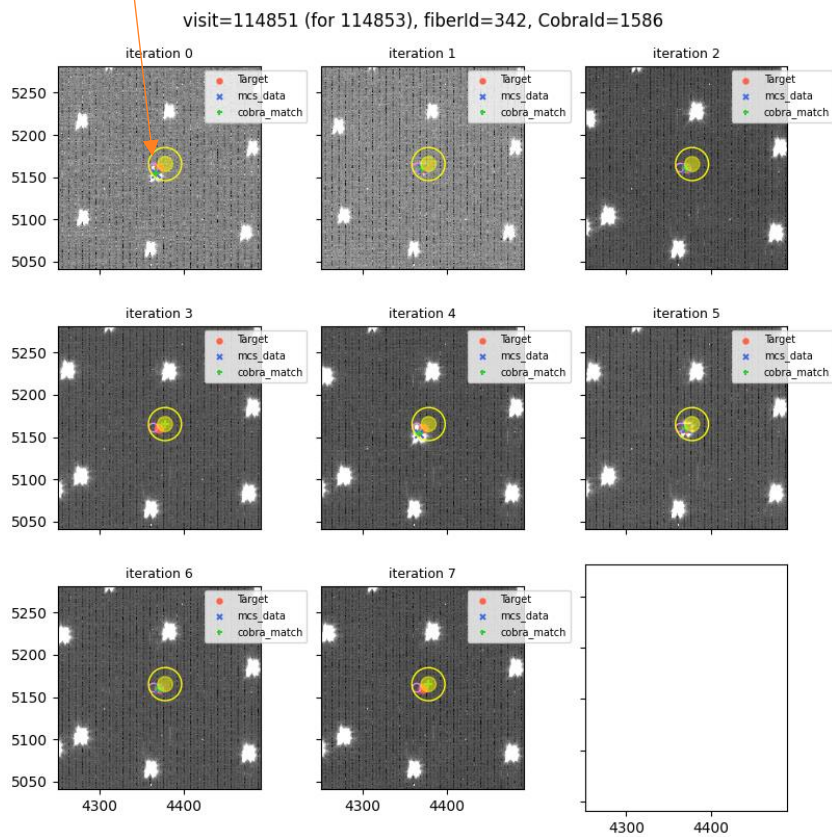
Target position needs to be checked

The target position is close to the dot



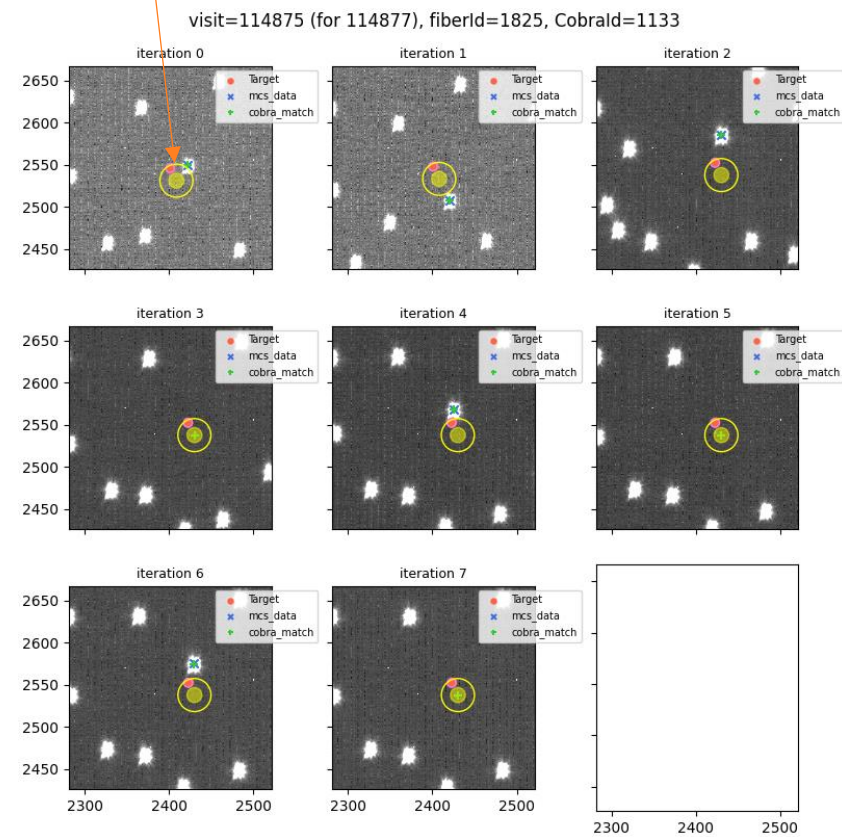
Target position needs to be checked

The target position is close to the dot



Target position needs to be checked

Target position is inside of the dot-free area?



Target position needs to be checked