———Dot-roach analysis———
convergenceId=v104269 dotRoachId0=v104270 darkRoachId0=v104295 mod4Id0=v104305
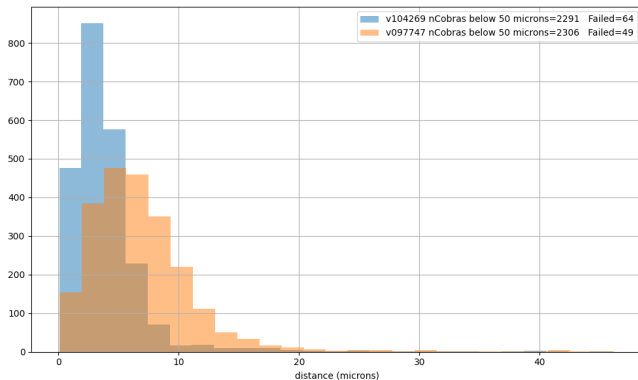
Arnaud Le Fur

auto
2024-02-15

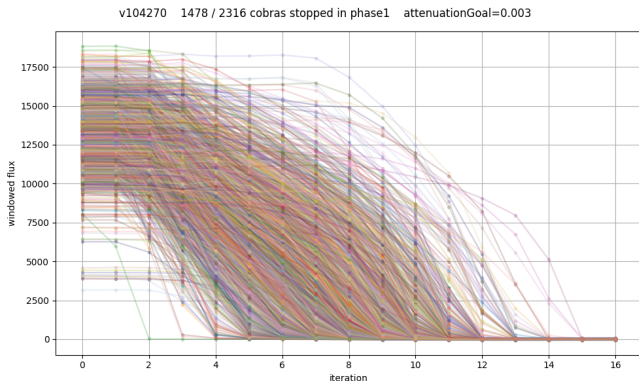# Table of Contents

Near-dot convergence results

- There are more cobras below 10 microns
- There are more cobras with larger residuals

Cobras stopped in phase 1

v104270   1478 / 2316 cobras stopped in phase1   attenuationGoal=0.003

That's the cobras that reached a sufficient attenuation going through the dot moving phi in one direction.

Cobras going to phase 2


v104270   1478 / 2316 going to phase2
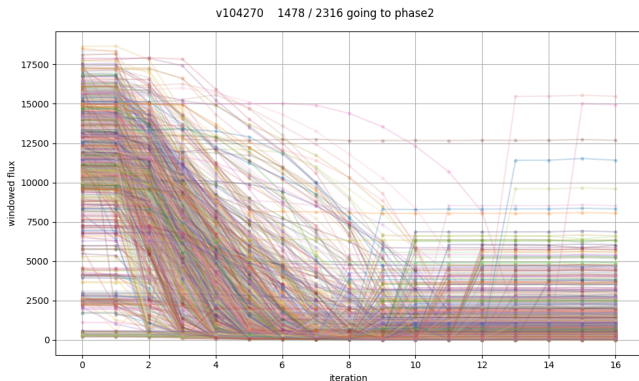
That's the cobras that have overshoot during phase 1, phi will go in the opposite direction in the next phase.

Cobras that did not behave as expected

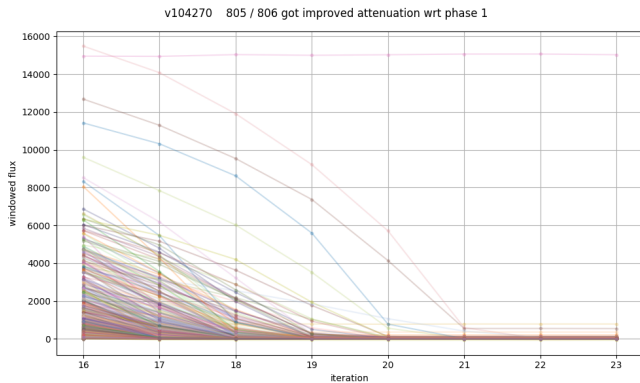v104270   32 / 2316 cobras misbehaving
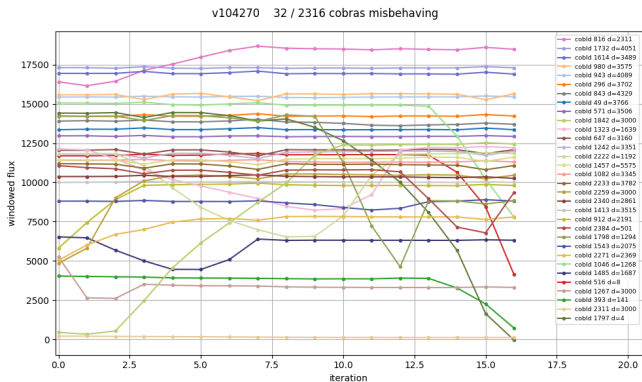
- ▶ 2 cobras started in the shadow of the dot.
- ▶ 16 Some cobras did not cross the dot.
- ▶ 12 cobras cross the dot partly.
- ▶ 2 cobras were going in but late.
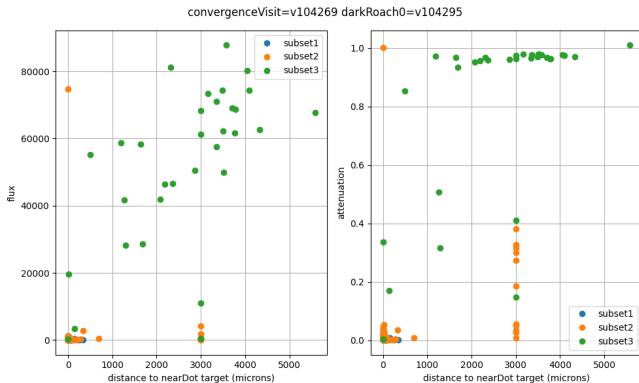
How many iteration required to enter the dot
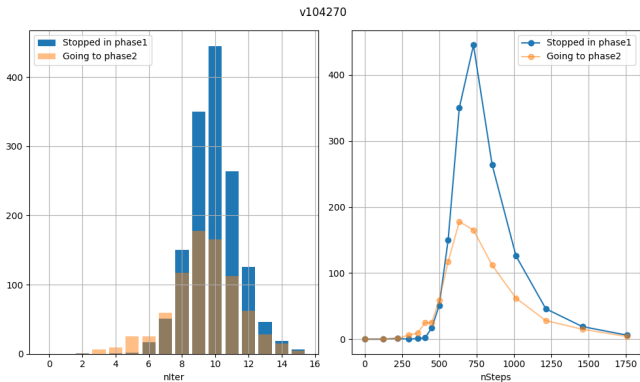
Right figure show you in terms of phi steps.

Cobras in phase 2

v104270   805 / 806 got improved attenuation wrt phase 1

Flux in dark-roach vs distance in near-dot convergence


convergenceVisit=v104269 darkRoach0=v104295

- ▶ We can observe that the tolerance to distance is quite high, problems start to appear when distance >0.7mm.
- ▶ We can also see there are a few converged cobras that end up having a high flux.
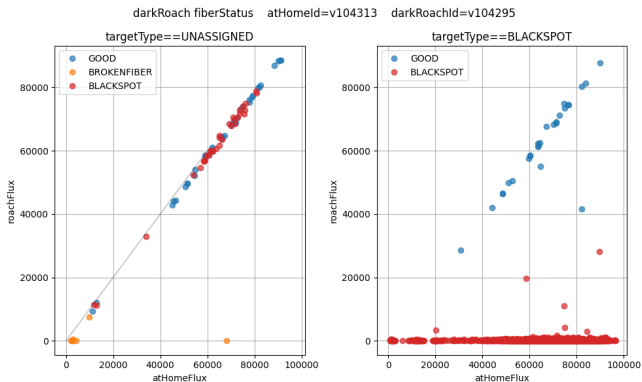
Final Attenuation for working cobras
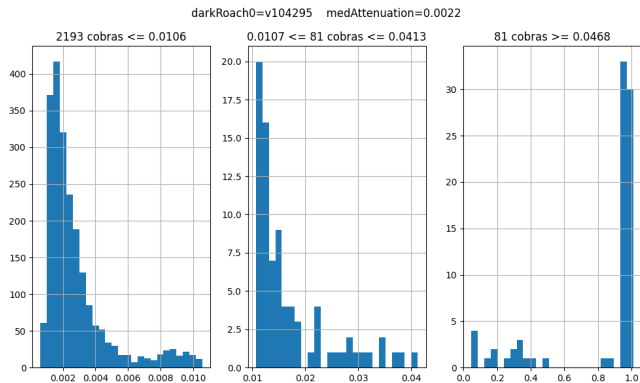
- Intrisic problem due to the extraction (bright neighbours, scattered light) can bias the results.

Final flux for all cobras
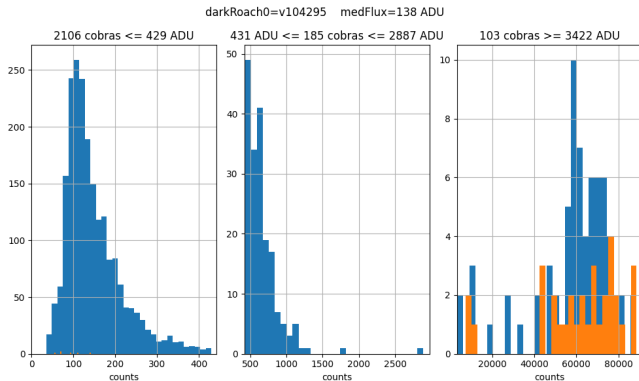
- Same conclusion as previous slide.
- intrisic problem due to the extraction (bright neighbours, scattered light) can increase the apparent flux.
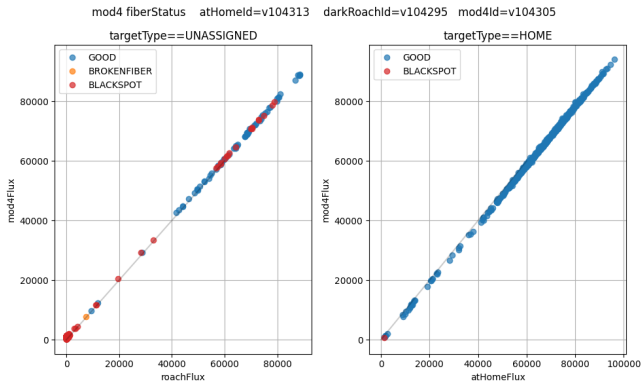
DarkRoach PfsConfig fiberStatus wrt targetType

- ▶ TargetType is set correctly.
- ▶ FiberStatus looks very wrong, many fibers with high sps flux are labelled BLACKSPOT.

Mod4 PfsDesign

mod4 pfsConfig0=104302,0x692293ede082e513
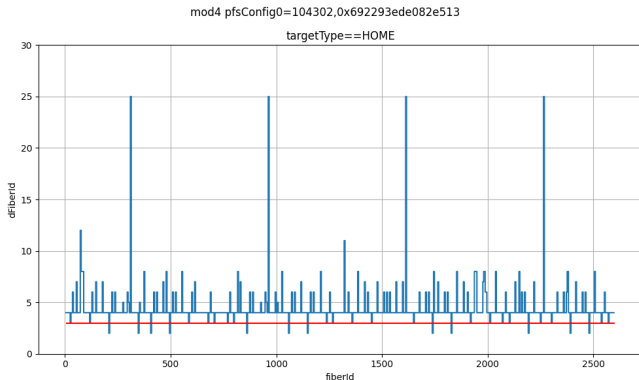
- This show you dFiberId(fiberId[i+1] - fiberId[i]) for the fibers that are revealed.
- In the context of MOD4, it should be at least 4.
- The PfsDesign is incorrect ! 32 do not respect that rule.

# Mod4 PfsConfig fiberStatus wrt targetType

- ▶ TargetType is set correctly, 13 UNASSIGNED fibers was moved from dot.
- ▶ FiberStatus looks very wrong correct, many fibers with high sps flux are labelled BLACKSPOT.
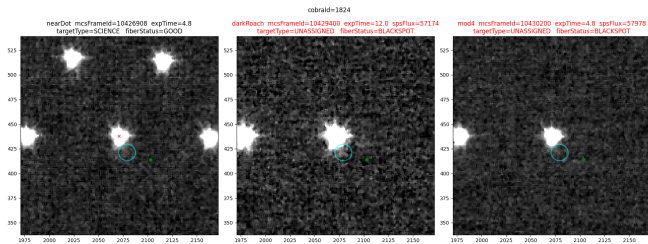
Conclusion

- In the context of dotRoach, convergence was worst than July.
- DotRoach worked OK
- DarkRoach pfsConfig.targetType is correct, BLACKSPOT cobras are driven behind BLACKSPOT.
- DarkRoach pfsConfig.fiberStatus is wrong, many cobras are not matched by mcs.
- Mod4 PfsDesign is wrong, misindentified cobras are driven back to HOME.
- Mod4 PfsConfig.targetType is correct, fps is driving only HOME cobras to HOME
- Mod4 PfsConfig.fiberStatus is wrong, many cobras are not matched by mcs.

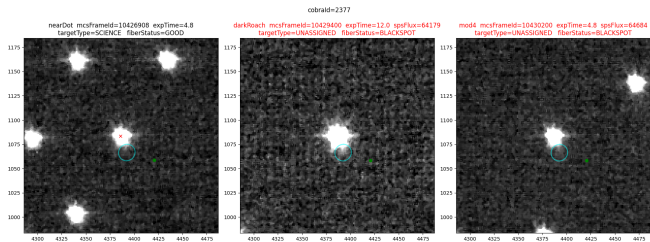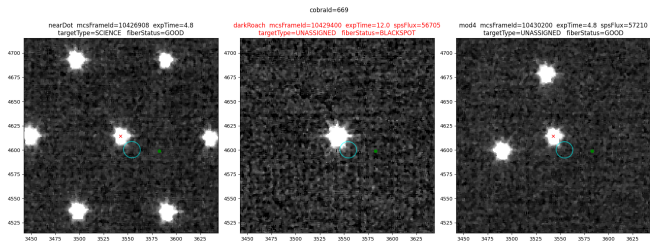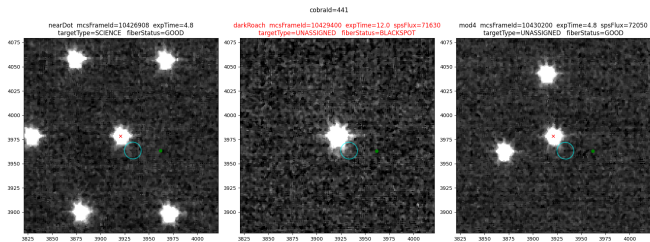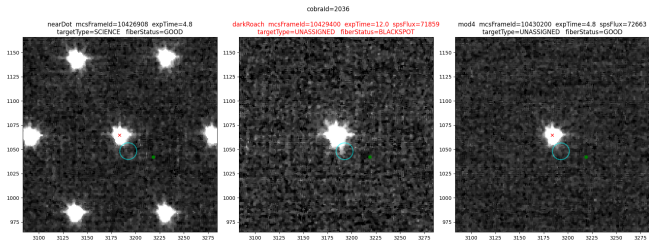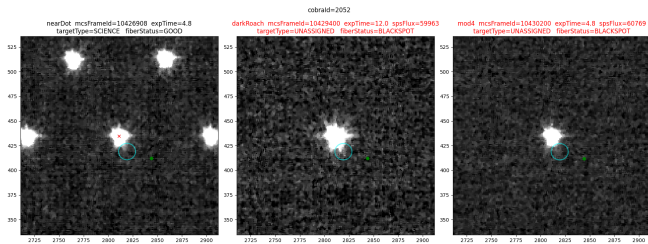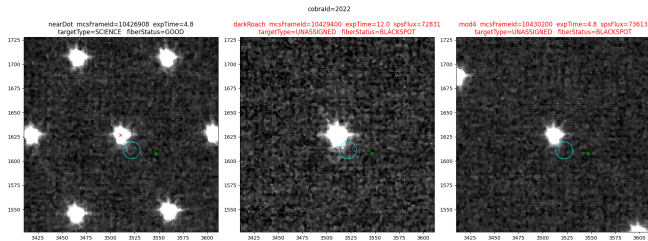# CobraId 1798
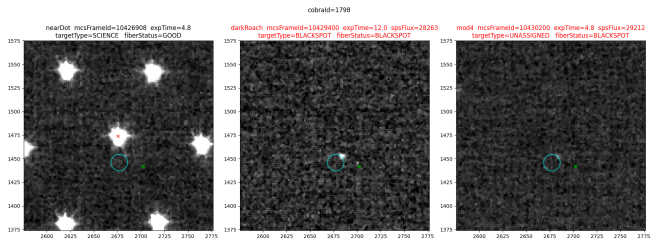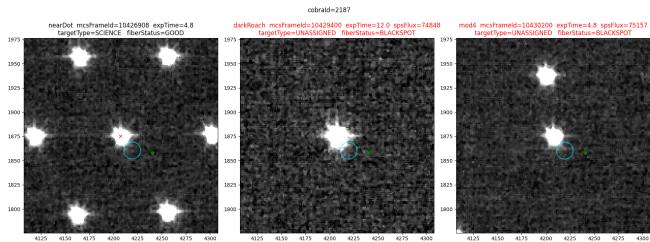
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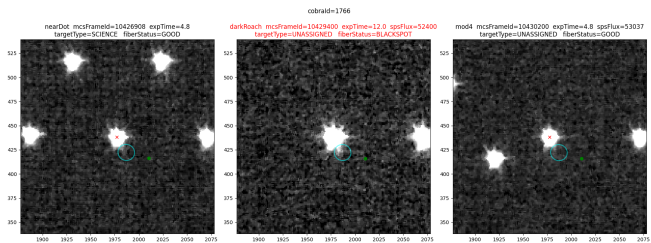
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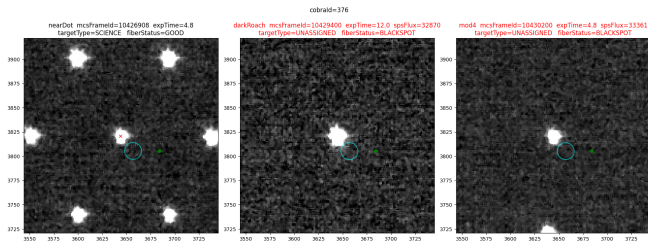
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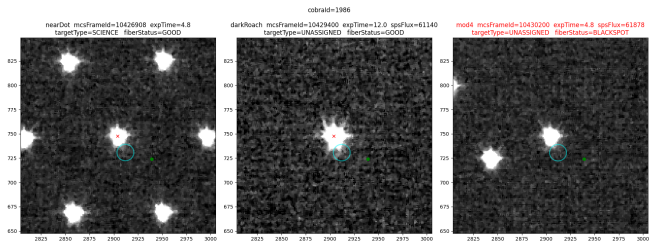
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targetType=UNASSIGNED fiberStatus=BLACKSPOT

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mod4 mcsFrameId=10430200 expTime=4.8 spsFlux=53037
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CobraId 1986

cobraId=1986

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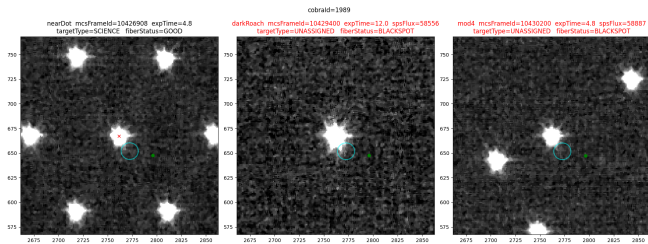
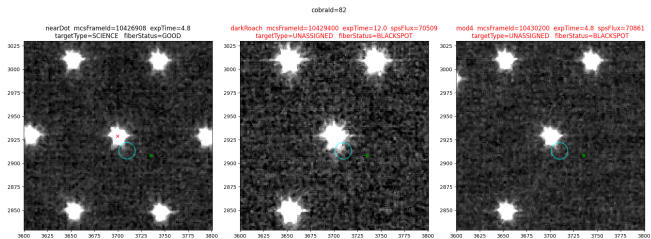# CobraId 1989

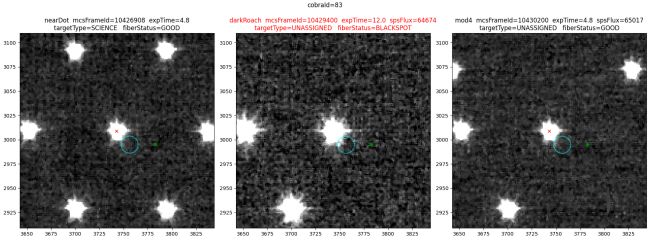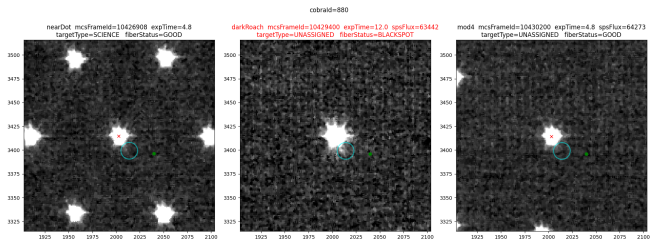# CobraId 1146
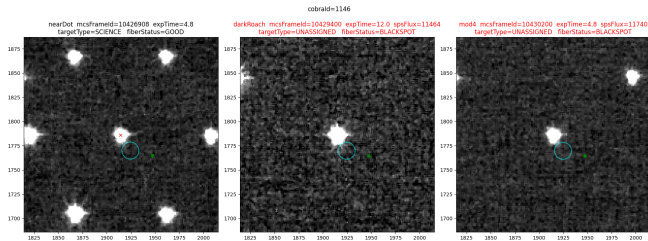
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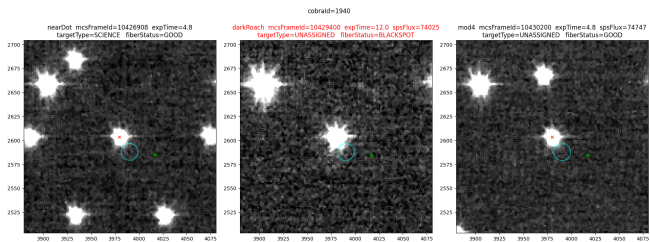
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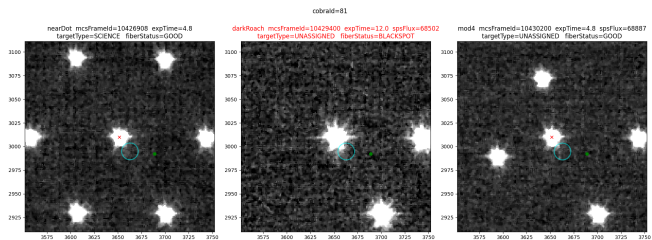
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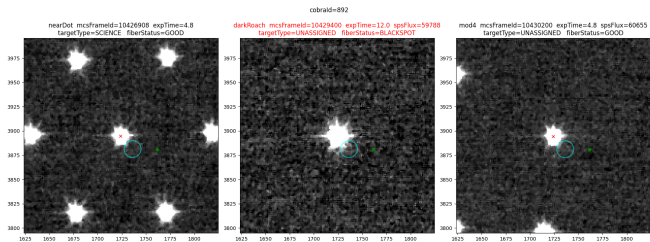mod4 mcsFrameId=10430200 expTime=4.8 spsFlux=65017
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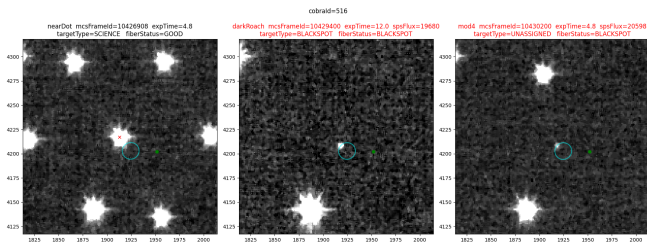
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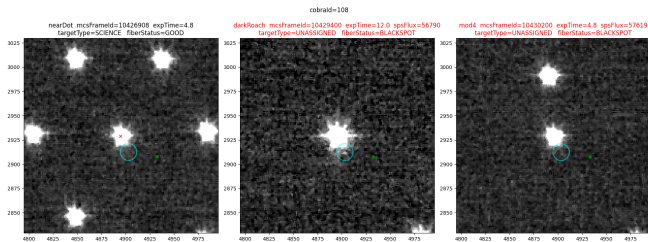
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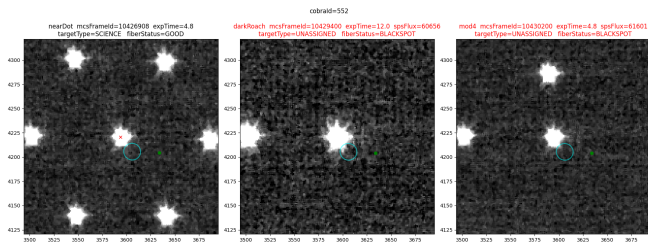mod4 mcsFrameId=10430200 expTime=4.8 spsFlux=11748
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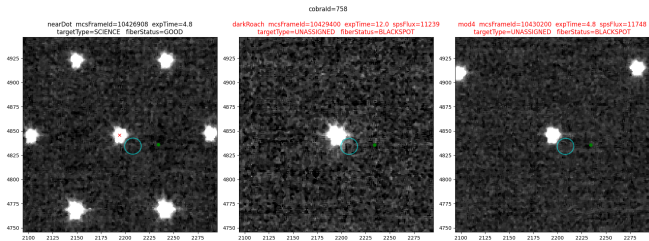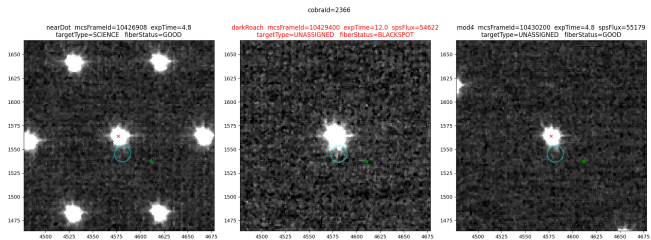
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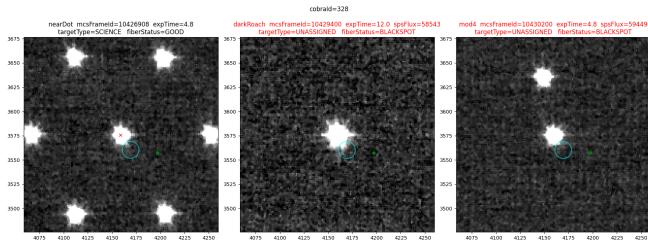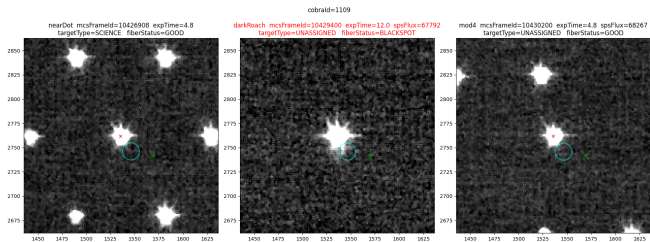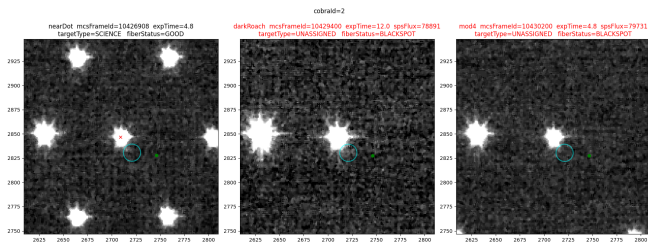# CobraId 550
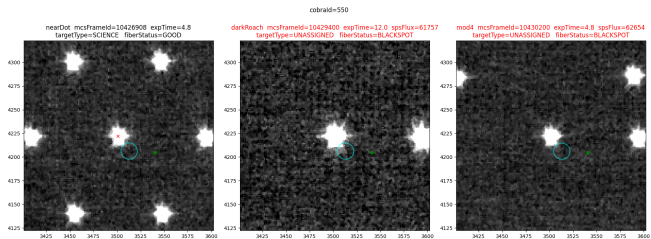
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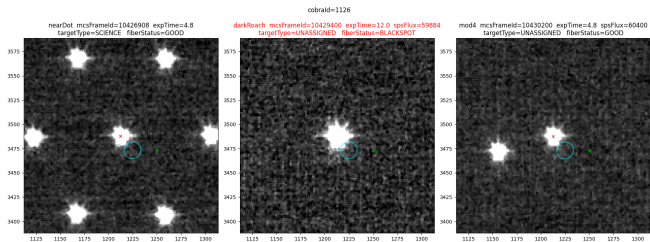
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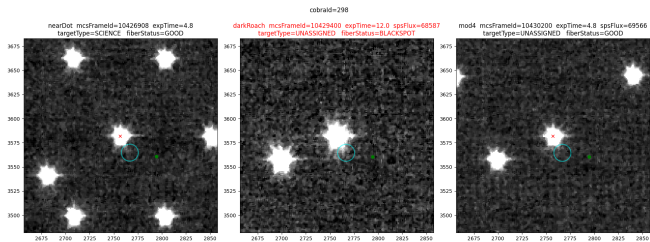
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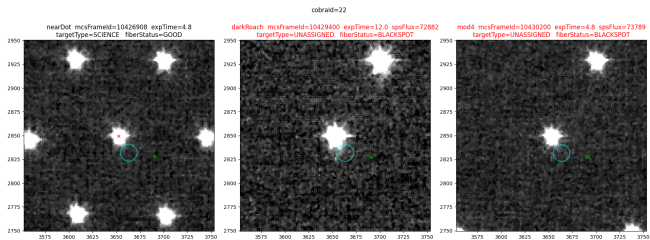
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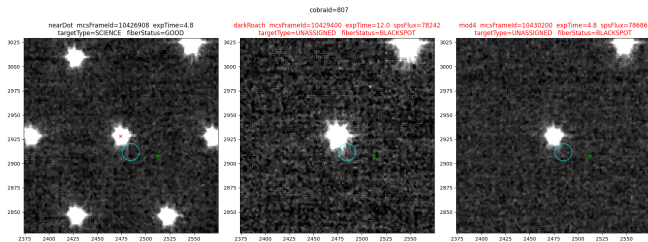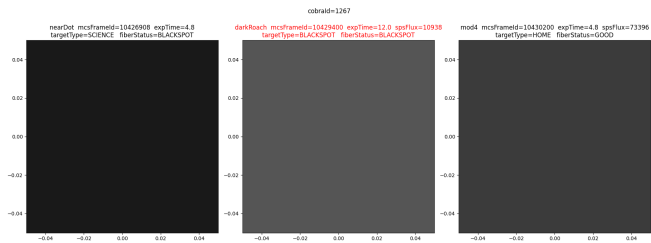
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